# Haier SERVICE MANUAL

Order No.AC1206S001V0

## Wall mounted Type

## ON/OFF EK-Series

## Model No.HSU18VHK-G&W

## ⚠WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death

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Haier Group

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# 1. Features

Intelligent air：With twin-blade technology ,the airflow can be adjusted not to blow directly to human

ESF filter : Trap harmful dust and remove unpleasant odors effectively

DRY function: Make dehumidifying in the room when the unit is working in the "DRY" mode

Anti-mold filter: Catches most small particles and remove unpleasant odors effectively

Sleep mode: The setting temprature and the indoor noise can be adjusted to a more comfortable level when you set the "sleep mode"during night sleep

24 Hour timer: Use the timer function to set on,or off,or from on to off,or from off to on

Auto restart: The function permits automatic return to previous peration conditions

Easy clean design: The panel is easy to wash and the airflow vents can be detached without any special tools for quick cleaning of the inside of the air conditioner

Auto mode: According to the fixed temperature,the unit will adjust the operation mode automatically.

# 2. Introduction

## 2.1 Safety Cautions

Be sure to read the following safety cautions before conducting repair work.

The caution items are classified into “Warning” and “Caution”. The “Warning” items are especially important since they can lead to death or serious injury if they are not followed closely. The “Caution” items can also lead to serious accidents under some conditions if they are not followed. Therefore, be sure to observe all the safety caution items described below.

About the pictograms

△ This symbol indicates an item for which caution must be exercised.
The pictogram shows the item to which attention must be paid.

○ This symbol indicates a prohibited action.
The prohibited item or action is shown inside or near the symbol.

● This symbol indicates an action that must be taken, or an instruction.
The instruction is shown inside or near the symbol.

After the repair work is complete, be sure to conduct a test operation to ensure that the equipment operates normally, and explain the cautions for operating the product to the customer.

### 2.1.1 Caution in Repair

| Warning | |
|---|---|
| Be sure to disconnect the power cable plug from the plug socket before disassembling the equipment for a repair.<br>Working on the equipment that is connected to a power supply can cause an electrical shook.<br>If it is necessary to supply power to the equipment to conduct the repair or inspecting the circuits, do not touch any electrically charged sections of the equipment. | |
| If the refrigerant gas discharges during the repair work, do not touch the discharging refrigerant gas.The refrigerant gas can cause frostbite. | |
| When disconnecting the suction or discharge pipe of the compressor at the welded section, release the refrigerant gas completely at a well-ventilated place first.<br>If there is a gas remaining inside the compressor, the refrigerant gas or refrigerating machine oil discharges when the pipe is disconnected, and it can cause injury. | |
| If the refrigerant gas leaks during the repair work, ventilate the area. The refrigerant gas can generate toxic gases when it contacts flames. | |
| The step-up capacitor supplies high-voltage electricity to the electrical components of the outdoor unit.<br>Be sure to discharge the capacitor completely before conducting repair work.A charged capacitor can cause an electrical shock. | |
| Do not start or stop the air conditioner operation by plugging or unplugging the power cable plug.<br>Plugging or unplugging the power cable plug to operate the equipment can cause an electrical shock or fire. | |

| Warning | |
|---|---|
| Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock. | |
| Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock. | |
| Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks. | |
| Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury. | |
| Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor. | |
| Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns. | |
| Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency. | |

## 2.1.2 Cautions Regarding Products after Repair

| Warning | |
|---|---|
| Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire. | |
| When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment.<br>If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury. | |
| Be sure to install the product correctly by using the provided standard installation frame.<br>Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury. | For integral units only |
| Be sure to install the product securely in the installation frame mounted on a window frame.<br>If the unit is not securely mounted, it can fall and cause injury. | For integral units only |

| Warning | |
|---|---|
| Be sure to use an exclusive power circuit for the equipment, and follow the technical standards related to the electrical equipment, the internal wiring regulations and the instruction manual for installation when conducting electrical work.<br>Insufficient power circuit capacity and improper electrical work can cause an electrical shock or fire. | |
| Be sure to use the specified cable to connect between the indoor and outdoor units. Make the connections securely and route the cable properly so that there is no force pulling the cable at the connection terminals.<br>Improper connections can cause excessive heat generation or fire. | |
| When connecting the cable between the indoor and outdoor units, make sure that the terminal cover does not lift off or dismount because of the cable.<br>If the cover is not mounted properly, the terminal connection section can cause an electrical shock, excessive heat generation or fire. | |
| Do not damage or modify the power cable.<br>Damaged or modified power cable can cause an electrical shock or fire. Placing heavy items on the power cable, and heating or pulling the power cable can damage the cable. | |
| Do not mix air or gas other than the specified refrigerant (R-410A / R22) in the refrigerant system.<br>If air enters the refrigerating system, an excessively high pressure results, causing equipment damage and injury. | |
| If the refrigerant gas leaks, be sure to locate the leak and repair it before charging the refrigerant. After charging refrigerant, make sure that there is no refrigerant leak.<br>If the leak cannot be located and the repair work must be stopped, be sure to perform pump-down and close the service valve, to prevent the refrigerant gas from leaking into the room. The refrigerant gas itself is harmless, but it can generate toxic gases when it contacts flames, such as fan and other heaters, stoves and ranges. | |
| When replacing the coin battery in the remote controller, be sure to disposed of the old battery to prevent children from swallowing it.<br>If a child swallows the coin battery, see a doctor immediately. | |

| Caution | |
|---|---|
| Installation of a leakage breaker is necessary in some cases depending on the conditions of the installation site, to prevent electrical shocks. | |
| Do not install the equipment in a place where there is a possibility of combustible gas leaks.<br>If a combustible gas leaks and remains around the unit, it can cause a fire. | |
| Be sure to install the packing and seal on the installation frame properly. If the packing and seal are not installed properly, water can enter the room and wet the furniture and floor. | For integral units only |

| Warning | |
|---|---|
| Do not repair the electrical components with wet hands. Working on the equipment with wet hands can cause an electrical shock. | |
| Do not clean the air conditioner by splashing water. Washing the unit with water can cause an electrical shock. | |
| Be sure to provide the grounding when repairing the equipment in a humid or wet place, to avoid electrical shocks. | |
| Be sure to turn off the power switch and unplug the power cable when cleaning the equipment. The internal fan rotates at a high speed, and cause injury. | |
| Do not tilt the unit when removing it. The water inside the unit can spill and wet the furniture and floor. | |
| Be sure to check that the refrigerating cycle section has cooled down sufficiently before conducting repair work. Working on the unit when the refrigerating cycle section is hot can cause burns. | |
| Use the welder in a well-ventilated place. Using the welder in an enclosed room can cause oxygen deficiency. | |

## 2.1.3 Cautions Regarding Products after Repair

| Warning | |
|---|---|
| Be sure to use parts listed in the service parts list of the applicable model and appropriate tools to conduct repair work. Never attempt to modify the equipment. The use of inappropriate parts or tools can cause an electrical shock, excessive heat generation or fire. | |
| When relocating the equipment, make sure that the new installation site has sufficient strength to withstand the weight of the equipment.<br>If the installation site does not have sufficient strength and if the installation work is not conducted securely, the equipment can fall and cause injury. | |
| Be sure to install the product correctly by using the provided standard installation frame.<br>Incorrect use of the installation frame and improper installation can cause the equipment to fall, resulting in injury. | For integral units only |
| Be sure to install the product securely in the installation frame mounted on a window frame.<br>If the unit is not securely mounted, it can fall and cause injury. | For integral units only |

## 2.1.4 Using Icons

Icons are used to attract the attention of the reader to specific information. The meaning of each icon is described in the table below:

## 2.1.5 Using Icons List

| Icon | Type of Information | Description |
|---|---|---|
| Note: | Note | A “note” provides information that is not indispensable, but may nevertheless be valuable to the reader, such as tips and tricks. |
| Caution | Caution | A “caution” is used when there is danger that the reader, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart (part of) a procedure. |
| Warning | Warning | A “warning” is used when there is danger of personal injury. |
| | Reference | A “reference” guides the reader to other places in this binder or in this manual, where he/she will find additional information on a specific topic. |

# 3. Specifications

| Model | | | | HSU18VHK-G&W | |
|---|---|---|---|---|---|
| | | | | Cooling | Heating |
| Capacity Rated | | | kW | 5128/5274 | 5128/5274 |
| | | | Btu/h | 17500/18000 | 17500/18000 |
| NOMINAL DISTRIBUTION SYSTEM VOLTAGE | Phase | | | PH | |
| | Frequency | | HZ | 60 | |
| | Voltage | | V | 208/230V | |
| Moisture Removal | | | PINT/h | 3.52 | 3.52 |
| Running Current (Rated) | | | A | 8.01/7.45 | 8.01/7.45 |
| Power Consumption Rated | | | W | 1600/1645 | 1600/1645 |
| EER/COP | | | BTU/(H*W) | 10.94 | 10.94 |
| Piping Connections (external diameter) | Liquid | | IN | Φ 0.25 | |
| | Gas | | IN | Φ 0.50 | |
| | Drain | | IN | Φ 0.63 | |
| Heat Insulation | | | | Both Liquid and Gas Pipes | |
| Max. Piping Length | | | IN | 295 | |
| Max. Level Difference | | | IN | 197 | |
| Chargeless | | | IN | 197 | |
| Amount of Additional Charge of Refrigerant | | | 1bs/in | 1.12 | |
| Indoor Unit | | | | HSU18VHK-G | |
| Front Panel Color | | | | White | |
| Air Flow Rate | CFM | | H | 588 | 588 |
| | | | M | -- | -- |
| | | | L | -- | -- |
| Fan | Type | | | Cross Flow Fan | |
| | Motor Output | | W | 40 | |
| | Speed | | Steps | 3 Steps, Silent, Auto | |
| Air Direction Control | | | | Horizontal, Downward | |
| Air Filter | | | | Removable / Washable / Mildew Proof | |
| Run current ( rated ) | | | A | 0.04 | 0.04 |
| Power consumption | | | W | 15 | 15 |
| Temperature Control | | | | Microcomputer Control | |
| Dimensions (WxHxD) | | | IN | 41.18x11.77x9.33 | |
| Packaged Dimensions (WxHxD) | | | IN | 44.33x15.28x13.54 | |
| Weight | | | 1bs | 27.78 | |
| Gross Weight | | | 1bs | 35.27 | |
| Operation Sound | H/M/L | | dBA | 51 / 48.5 / 46 | 51 / 48.5 / 46 |
| Sound Power | H(cooling/heating) | | dBA | 51 | 51 |

| Outdoor Unit | | | HSU18VHK-W |
|---|---|---|---|
| Casing Color | | | White |
| Compressor | Type | | Rotary Compressor |
| | Model | | PA165M2C-3ETU |
| | Motor Output | W | 1625/1635 |
| | Oil Type | | ESTER OIL VG74 |
| | Oil Charge | L | 0.48 |
| Refrigerant | Model | | R410A |
| | Charge | kg | 1.3 |
| Air Flow Rate（H） | m³/min | | 18.3 |
| | cfm | | 568.3 |
| Fan | Type | | Axial fan |
| | Motor Output | W | 72 |
| Runing current（rated） | | A | 7.45 |
| Power Consumption （rated） | | W | 1645 |
| Dimensions (H×W×D) (stop valve, and bottom support is not included) | | IN | 33.86x12.13x28.74 |
| Packaged Dimensions (H×W×D) | | IN | 39.17x16.54x32.09 |
| Weight | | 1bs | 106.48 |
| Gross Weight | | 1bs | 113.10 |
| OperationSound | H | dBA | 60 |
| Sound Power | H(cooling/heating) | dBA | 60 |

Note: The data are based on the conditions shown in the table below.

| Cooling | Heating | Piping Length |
|---|---|---|
| Indoor:95⁰FDB/71⁰FDB<br>Outdoor:121⁰FDB/85⁰FDB | Indoor:73⁰FDB<br>Outdoor:31⁰FDB/28⁰FDB | 196.85 IN |

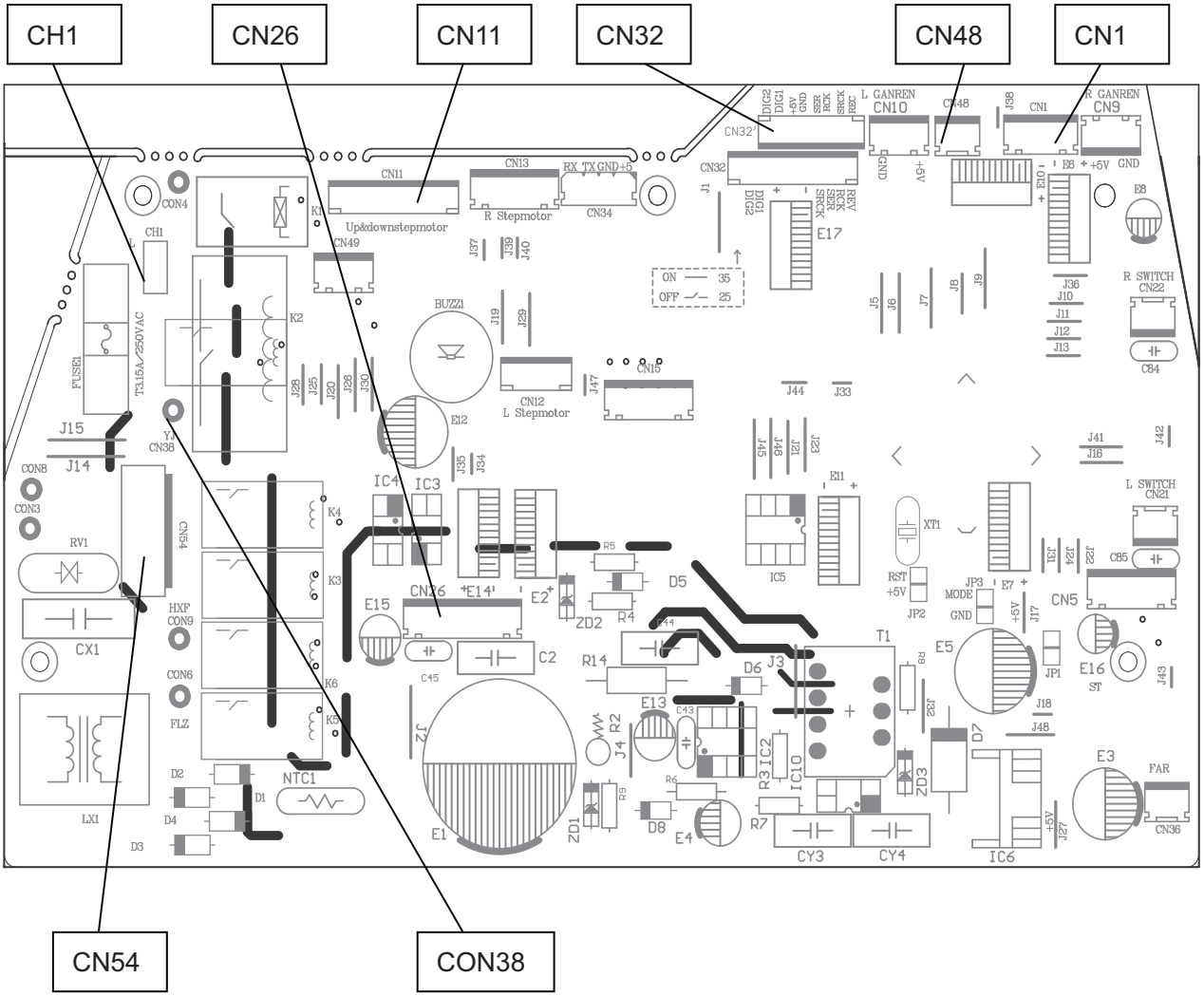
| Conversion Formulate |
|---|
| kcal/h=kW×860 |
| Btu/h=kW×3413 |
| cfm=m³/min×35.3 |

# 4. Printed Circuit Board Connector Wiring Diagram

## 4.1 Indoor unit

### Connectors Indoor PCB

1) CH1 connector for power line L 2) CN26 connector for DC fan motor 3) CN11 connector for step motor 4) CN32 connector for receiver display 5) CN48 connector for Emergency switch 6) CN1 connector for ambient temp. sensor and piping temp.sensor 7) CN54 connector for power line N 8) CON38 connector for compressor control.



# 5. Functions and control

## 5.1 main functions and control specifications

Including brief introduction to air conditioners of series models and electric control function.

**5.1.1 Automatic running**

5.1.1.1 Single cold automatic run mode:

After entering into this mode, the main control “MCU” determines the corresponding work pattern according to the indoor temperature so as to maintain the preset temperature (the preset temperature is 92°F). When the indoor temperature is below 92°F, outlet air from compressor is off, the automatic wind from fan motor is low, and wind can be set to high, medium or low by hand. When the indoor temperature is or above 92°F, the unit enters the cooling mode and conducts the cooling programme (the preset temperature is 92°F), outlet air from compressor is on and indoor fan motor run in fixed wind speed.

5.1.1.2 Automatic running mode

When the running mode is turned to automation after starting the system, the system will first determine the running mode according to the current room temperature and then will run according to the determined mode. Tr in the following selection conditions means room temperature, Ts means setting temperature, Tp means temperature of indoor coil pipe

a. Tr≥ 83°F running cooling mode

b. Tr< 83°F running heating mode

After turning to the automation mode, the running mode can be switched between cooling mode, fan mode and heating mode according to the change of the indoor ambient temperature. But the automatic conversion between cooling mode and heating mode must be conducted after 15 minutes.

**5.1.2 Indoor temperature control**

Temperature control range : 60°F—105°F

Temperature control precision: ±12°F

Compressor can’t be controlled by temperature sensor within 2 minutes after it starts

5.1.2.1 Cooling mode:

When Tr> Ts, outdoor fan motor and compressor on, and indoor fan motor run at fixed wind speed. When Tr < Ts, outdoor fan motor and compressor off, and when Tr > Ts, outdoor fan motor and compressor are working again .If Tr=Ts, the indoor fan motor , outdoor fan motor and the compressor’s state will not change.

5.1.2.2 Heating mode:

When Tr ≤ Ts, compressor, four-ways valve and outdoor fan motor is on, indoor fan motor runs as in cold blast avoidance mode, and 4℃of compensation is added after compressor is started.

When Tr>Ts+5℃, compressor is off, and the indoor fan motor runs as in cold blast avoidance mode.

When Tr<Ts+5℃, compressor, four-ways valve and outdoor fan motor is on, and the indoor fan motor runs as in the mode of avoiding cold blast.

**5.1.3 Cooling run mode:**

temperature control range : 60°F—105°F

temperature control precision: ±12°F

compressor can’t be controlled by temperature sensor within 2 minutes after it starts.

control character: when Tr ≥ Ts, outlet air from compressor is on and indoor fan motor run at fixed wind speed. When Tr< Ts, outlet air from compressor is off , and when Tr > Ts, outlet air from compressor is on.

wind speed control: (the temperature difference is 12°F)

auto: when Tr>=Ts+19°F, the wind speed is high;

When Ts+1℃≤Tr Ts+19°F, the wind speed is medium

When Tr Ts+12°F, the wind speed is low.

When temperature sensor is off, the fan motor runs at low speed.

when the wind speed changes from low to high, there is no delay, and when it changes from high to low, there is a 3-minutes delay before conversion.

Manual operation:When unit is on the wind speed can be set to high, medium, low or automatic as required (execute instruction 2 seconds later after receiving remote signal)

Compressor control: The compressor can't be controlled by temperature sensor within 2 minutes after start up and can be only restarted at least 3 minutes later after shutdown. There is no 3-minute protection with power on for the first time (over 3 minutes with power off). The compressor must stands by for 3 minutes before it is restarted after shut down.

There is no 2-minute limit when changing the temperature setting or shutting down the machine through the remote controller, and the machine can be shut down immediately.

Avoiding electrical shock: outlet air is available 2 seconds later after startup.

High temperature expiration prevention:

When the temp.of coil pipe is above 207°F,compressor and outlet air stop running 10 seconds later, and inlet air runs as the temp. sensor is off. When compressor stands by for 3 minute and the temp. of coil pipe is below 201°F, the unit can be started again.

Protection of frost is available (disable in test run or heating mode): In order to prevent the indoor heat exchanger from freezing (in refrigation or dehumidifying mode), the compressor will be shut off when the temperature of the indoor coil pipe is or below 9°F and the compressor runs for over 5 minutes. When the temperature of the indoor coil pipe ascends to over 31°F, the compressor is restarted (must meet a 3-minutes delay)

Timer on, Timer off and sleep control are available.

**5.1.4 Dehumidifying mode:**

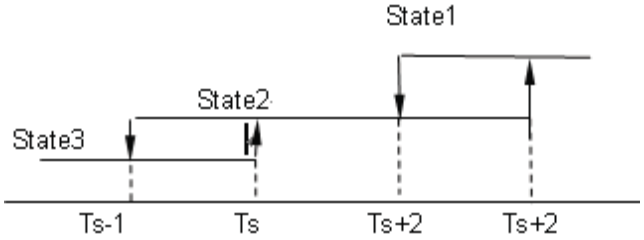
Temperature control range : 60°F—105°F

Control character:

When Tr (indoor temperature) > Ts (temperature setting) +15°F, compressor and outdoor fan motor run continuosly with indoor fan motor runnig in accordance with the wind speed setting(State 1).

When Ts ≤ Tr ≤ Ts +15°F, outlet air from compressor is on for 10 minutes and off for 6 minutes, the indoor fan motor is off in 3 minutes after shut down of compressor and gives breeze in other time(State 2).

When Tr < Ts, outlet air from compressor is unavailable, and the indoor fan motor enter breeze mode 3 minutes later after after shut down of compressor(State 3).




When all the ranges alternate, there is ± 12°F difference.

**5.1.5 Heating mode:** (cooling only have no the mode)

*Temperature control range : 60°F —105°F

*Temperature control precision: ± 12°F

*Control Character:

When Tr ≤ Ts, compressor, four-ways valve and outdoor fan motor is on, indoor fan motor runs as in cold blast mode, and 22°F of compensation is added after compressor is started.

When Tr Ts+25°F, compressor is off, and the indoor fan motor runs as in warm blast mode.

When Tr<Ts+25°F, compressor, four-ways valve and outdoor fan motor is on, and the indoor fan motor runs as in the mode of avoiding cold blast.

*Control of indoor fan motor:

Manual operation: The wind speed can be set to high, medium, low or automatic as required.

Automatic operation: When Tr Ts, the wind speed is high;

When Ts ≤ Tr Ts+15°F, the wind speed is medium.

When Ts+15°F ≤ Tr, the wind speed is low.

*Control of air door: setting the position of air door as required.

*Compressor control: The compressor can't be controlled by temperature sensor in 2 minutes after start up and also can't be started again at least 3 minutes later after shut down. There are 3-minute protection with power on for the first time (over 3 minutes with power off). The compressor must be started again 3 minutes later after shut down.

*Avoiding electrical shock: outlet air is available 2 seconds later after start up.

*Timer on, Timer off and sleep control are available.

*Control of 4-way valve: When the unit is started for the first time, the 4-way valve starts runnig 10 seconds earlier than compressor does. After compressor stops runnig, the 4-way valve continues running for 2 minutes and then stops. If changing the unit from heating to cooling, the 4-way valve is shut off 2 minutes later and compressor is started 3 minutes later.

**5.1.5.1 Cold draft prevetion:**

5.1.5.1.1 Compressor is interrupted during the defrosting operation and continues to run after defrosting is completed. When the indoor exchanging temperature is below 83°F , the indoor fan motor is off. When the indoor exchanging temperature is above 83°F, the indoor fan motor is running at weak speed.

5.1.5.1.2 If the temperature of coil pipe can't be above 131°F 4 minutes later after start up, fan motor is running at the preset wind speed.

5.1.5.1.3 If the temperature of coil pipe is above 131°F 4 minutes later after start up, fan motor is running at the preset wind speed.

5.1.5.1.4 If coil pipe descends to the temp. lower than 131°F from 131°F. fan motor is running at the preset wind speed.

*Warm blast: If the temperature sensor is off. Compressor stops runnig. If the temperature of coil pipe is above 83°F, fan motor enter breeze mode; and if the temperature of coil pipe is below 73°F , fan motor stops running.

**5.1.5.2 High temperature protection and high temperature expiration protection:**

5.1.5.2.1 High temperature prevention: When the temp. of coil pipe is above 188°F, the outdoor fan motor stops.When the temp descends to 175°F, the outdoor fan motor is restarted and fan speed invertage frequence is more than 45 seconds.

5.1.5.2.2 High temperature expiration prevention:When the temp.of coil pipe is above 62℃,compressor and outlet air stop running 10 seconds later, and inlet air runs as the temp. sensor is off.

When compressor stands by for 3 minute and the temp. of coil pipe is below 169°F, the unit can be started again.

*Current protection and current expiration protection: (Not detecting within 60 seconds after start up)

*Overcooling protection：One and half a minutes later after compressor starts, if the temperature of coil pipe is below 22°F, compressor and air outlet stop, and air inlet runs according to the temp. setting. Compressor can be restarted 3 minutes later.

**5.1.5.3 Defrosting:**

5.1.5.3.1 Entry conditions of defrosting:

The entry conditions of defrosting is classified into two types: intelligentized defrosting and sensor defrosting. Through selecting and judging, the models without outdoor sensor defrosts according to intelligentized defrosting, and others with ensor defrosts according to sensor defrosting.

Intelligentized defrosting:

5.1.5.3.1.1 Indoor unit enter overload protection and air outlet stops when air outlet has been restarted and runs over 10 minutes, and compressor runs over 45 minutes in total and over 20 minutes continuously, and the temp. of indoor coil pipe is below 131°F.

5.1.5.3.1.2 Compressor runs20minutes continuously, and the temp. of indoor coil pipe decreases 9°F per 6 minutes and this operation repeats 3 times, and the temp. of coil pipe is below 131°F, and 5 minutes later after compressor is restarted.

5.1.5.3.1.3 When compressor runs over 3 hours in total and over 20 minutes continuously and after the temp. of indoor coil pipe is below 131°F, the system enters defrosting mode.

5.1.5.3.1.4 The difference between the temp. of indoor coil pipe and the indoot temp. is below 60°F and lasts 5 minutes, compressor runs over 45 minutes in total and over 20 minutes continuously after the temp. of indoor coil pipe is below 131°F , the system enters defrosting mode.

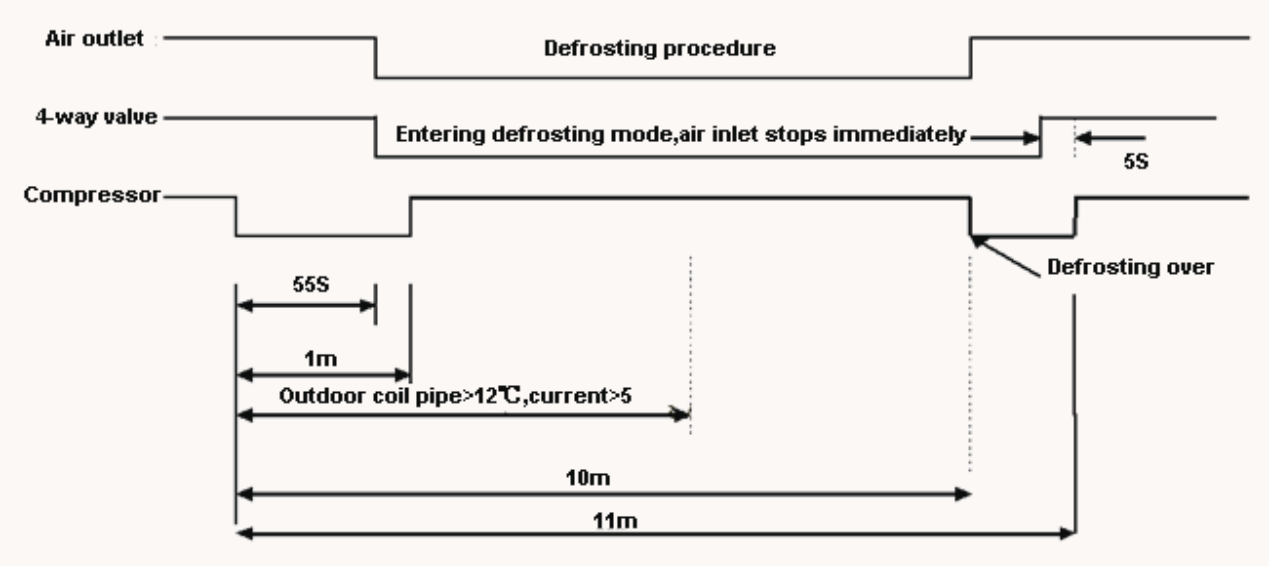
5.1.5.3.2 Exit conditions of defrosting:

Defrosting time is higher than 12 minutes (compressor is on).

5.1.5.3.2.1 During the defrosting, if current peak value is cut off, the unit quit the defrosting mode. But the protection of expiration of current peak value is unavailable with 60 senconds after compressor is started.

5.1.5.3.2.2 During the defrosting and 2 minutes After quiting the defrosting mode, abnormality of temp. sensor isn't detected.

5.1.5.3.2.3 After quiting the defrosting mode, the fan motor enter cooling prevention mode.



**5.1.6 Timer function:**

You can set 24-hour timer on or timer off as required, and the minum time unit is 1 minute. After setting, the indicator of indoor unit is on , and it is off when timer setting is completed. There are several timer mode as follows.

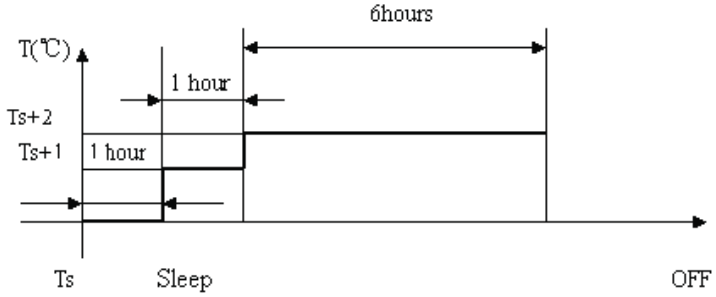
5.1.6.1 Timer on: The LED of “timer on” lights up, and unit behaves with halt status. Timer on is completed, and then unit starts running with the LED of “timer on” off. The unit starts with the the last setting receiving timer signals, and sleep setting is not allowed.

5.1.6.2 Timer off: Unit starts, timer indicator lights up; When reaching time setting, the indicator goes out, unit enters shut down mode, and sleep function can be set. If timer off and sleep are set synchronously, the one which time is short run first. Executing shutdown instruction clear timer and sleep function.

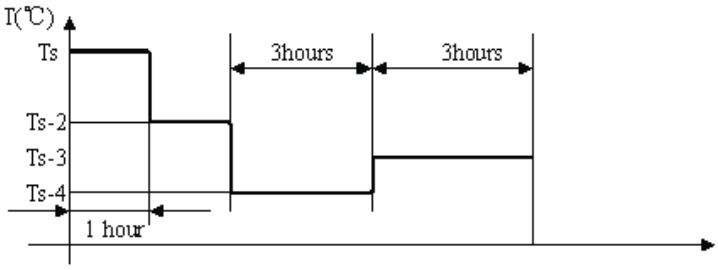
5.1.6.3 Timer on and timer off can be set synchronously.

**5.1.7 Sleep function**: the timer indicator lights up.

5.1.7.1 In cooling/defrosting mode, the temp. setting increases 12°F one hour later after start up. After another hour the temp. setting increase by more 12°F and then run continuously for another 6 hours and then close.




5.1.7.2 In heating mode, the temp. setting decrease 15°F one hour after start up. After another hour the temp. setting decrease by more 15°F. After 3 hours the temp. setting rise by 12°F and then run continuously for another 3 hours and then close.




5.1.7.3 If the wind speed is set to high before going to bed, the wind speed become medium after start up; If the wind speed is set to medium before going to bed, the wind speed become low after start up; If the wind speed is set to low before going to bed, the wind speed keep unchanged.

**5.1.8 Emergency switch imput:**

5.1.8.1 Press the switch of emergency operation, then buzzer rings once and unit enters the automatic operation mode. (emergency operation)

5.1.8.2 If the switch is kept pressed for 5 seconds, buzzer ring two times and unit enter enter test run mode.

5.1.8.3 Press the switch again, and then closes.

5.1.8.4 Enter emergency operation from timer mode, then timer is cancelled.

**5.1.9 Test run:**

5.1.9.1 The temperature sensor of inlet air doesn't work, and compressor starts (but subject to the limit of -minute delay excluding the first time), and high wind, cooling, and air door is open.The indoor fan motor runs, running indicator lights up, compressor relay and the one of outdoor fan motor is closed

5.1.9.2 During test run:

The prevention of freezing of evaporator doesn't work.

Current cross control doesn't work.

The control of current cross peak expiration doesn't work.

Temperature control doesn't work.

Temperature expiration control doesn't work.

**5.1.10 memory function**: The memory function of power down is available, and the auto recovery function of power on is optional. (In auto, heating, cooling, or defrosting status, press the "sleeping" button 10 times within 5 seconds, and the auto recovery function of power on can be set on/off. If the buzzer rings 4 times, the the auto recovery function of power on is available; If the buzzer rings 2 times, the the auto recovery function of power on is unavailable.)

If there is no EEPROM, the unit is taken off the 'off' function of the memory function of power down. But the memory function of power down can also be set on/off, and the data is the default value of chip.

**5.1.11 Alarm from indoor fan motor:** 2 minutes later after the indoor fan motor is charged, and the impulse from fan motor is not detected, hen send alarm signals.

# 5.2 Value of Thermistor

## 5.2.1 Indoor unit

Room sensor

R89 $^{0}$F=23KΩ±3.5%

B89 $^{0}$F/169 $^{0}$F=4200K±3%

| Temp.($^{0}$F) | Max.(KΩ) | Normal(KΩ) | Min.(KΩ) | Tolerance($^{0}$F) | |
|---|---|---|---|---|---|
| -22.0 | 568.8372 | 501.0746 | 440.8435 | -3.55 | 3.15 |
| -20.2 | 530.9600 | 468.6491 | 413.1441 | -3.51 | 3.13 |
| -18.4 | 495.8488 | 438.5314 | 387.3645 | -3.47 | 3.10 |
| -16.6 | 463.2850 | 410.5433 | 363.3602 | -3.44 | 3.08 |
| -14.8 | 433.0683 | 384.5212 | 340.9980 | -3.42 | 3.06 |
| -13.0 | 405.0156 | 360.3153 | 320.1558 | -3.38 | 3.04 |
| -11.2 | 378.9588 | 337.7879 | 300.7211 | -3.35 | 3.01 |
| -9.4 | 354.7440 | 316.8126 | 282.5905 | -3.31 | 2.99 |
| -7.6 | 332.2300 | 297.2732 | 265.6686 | -3.28 | 2.95 |
| -5.8 | 311.2873 | 279.0627 | 249.8676 | -3.24 | 2.93 |
| -4.0 | 291.7969 | 262.0831 | 235.1067 | -3.20 | 2.92 |
| -2.2 | 273.6494 | 246.2437 | 221.3111 | -3.17 | 2.88 |
| -0.4 | 256.7445 | 231.4612 | 208.4122 | -3.13 | 2.86 |
| 1.4 | 240.9897 | 217.6590 | 196.3462 | -3.10 | 2.83 |
| 3.2 | 226.3000 | 204.7662 | 185.0545 | -3.06 | 2.81 |
| 5.0 | 212.5973 | 192.7176 | 174.4829 | -3.02 | 2.77 |

| | | | | | |
|---|---|---|---|---|---|
| 6.8 | 199.8093 | 181.4531 | 164.5813 | -2.99 | 2.75 |
| 8.6 | 187.8698 | 170.9169 | 155.3033 | -2.95 | 2.72 |
| 10.4 | 176.7176 | 161.0578 | 146.6059 | -2.92 | 2.68 |
| 12.2 | 166.2961 | 151.8284 | 138.4495 | -2.88 | 2.66 |
| 14.0 | 156.5532 | 143.1847 | 130.7973 | -2.84 | 2.63 |
| 15.8 | 147.4409 | 135.0863 | 123.6153 | -2.81 | 2.59 |
| 17.6 | 138.9148 | 127.4956 | 116.8717 | -2.75 | 2.57 |
| 19.4 | 130.9337 | 120.3778 | 110.5374 | -2.72 | 2.54 |
| 21.2 | 123.4597 | 113.7009 | 104.5852 | -2.68 | 2.50 |
| 23.0 | 116.4577 | 107.4349 | 98.9897 | -2.65 | 2.48 |
| 24.8 | 109.8953 | 101.5523 | 93.7278 | -2.61 | 2.45 |
| 26.6 | 103.7422 | 96.0274 | 88.7774 | -2.57 | 2.41 |
| 28.4 | 97.9708 | 90.8365 | 84.1185 | -2.52 | 2.38 |
| 30.2 | 92.5551 | 85.9574 | 79.7322 | -2.48 | 2.34 |
| 32.0 | 87.4712 | 81.3697 | 75.6011 | -2.45 | 2.32 |
| 33.8 | 82.6970 | 77.0544 | 71.7088 | -2.41 | 2.29 |
| 35.6 | 78.2118 | 72.9937 | 68.0402 | -2.36 | 2.25 |
| 37.4 | 73.9966 | 69.1712 | 64.5813 | -2.32 | 2.21 |
| 39.2 | 70.0335 | 65.5716 | 61.3188 | -2.29 | 2.18 |
| 41.0 | 66.3062 | 62.1807 | 58.2405 | -2.23 | 2.14 |
| 42.8 | 62.7992 | 58.9853 | 55.3351 | -2.20 | 2.11 |
| 44.6 | 59.4984 | 55.9729 | 52.5917 | -2.16 | 2.07 |
| 46.4 | 56.3905 | 53.1320 | 50.0006 | -2.11 | 2.03 |
| 48.2 | 53.4631 | 50.4521 | 47.5523 | -2.07 | 2.00 |
| 50.0 | 50.7048 | 47.9230 | 45.2384 | -2.03 | 1.96 |
| 51.8 | 48.1049 | 45.5355 | 43.0505 | -1.98 | 1.93 |
| 53.6 | 45.6534 | 43.2808 | 40.9813 | -1.94 | 1.87 |
| 55.4 | 43.3410 | 41.1509 | 39.0236 | -1.89 | 1.84 |
| 57.2 | 41.1592 | 39.1381 | 37.1708 | -1.85 | 1.80 |
| 59.0 | 39.0998 | 37.2355 | 35.4167 | -1.80 | 1.76 |
| 60.8 | 37.1553 | 35.4363 | 33.7555 | -1.76 | 1.73 |
| 62.6 | 35.3186 | 33.7344 | 32.1818 | -1.71 | 1.69 |
| 64.4 | 33.5833 | 32.1240 | 30.6905 | -1.67 | 1.64 |
| 66.2 | 31.9432 | 30.5997 | 29.2769 | -1.62 | 1.60 |
| 68.0 | 30.3925 | 29.1565 | 27.9365 | -1.58 | 1.57 |
| 69.8 | 28.9259 | 27.7895 | 26.6651 | -1.53 | 1.51 |
| 71.6 | 27.5383 | 26.4944 | 25.4589 | -1.49 | 1.48 |
| 73.4 | 26.2252 | 25.2670 | 24.3140 | -1.44 | 1.44 |
| 75.2 | 24.9822 | 24.1034 | 23.2271 | -1.40 | 1.39 |
| 77.0 | 23.8050 | 23.0000 | 22.1950 | -1.40 | 1.39 |
| 78.8 | 22.7500 | 21.9499 | 21.1520 | -1.40 | 1.40 |
| 80.6 | 21.7477 | 20.9536 | 20.1638 | -1.48 | 1.46 |
| 82.4 | 20.7951 | 20.0081 | 19.2272 | -1.55 | 1.53 |
| 84.2 | 19.8895 | 19.1104 | 18.3394 | -1.60 | 1.58 |
| 86.0 | 19.0285 | 18.2581 | 17.4974 | -1.67 | 1.66 |

| | | | | | |
|---|---|---|---|---|---|
| 87.8 | 18.2094 | 17.4484 | 16.6988 | -1.75 | 1.71 |
| 89.6 | 17.4302 | 16.6792 | 15.9410 | -1.80 | 1.78 |
| 91.4 | 16.6885 | 15.9480 | 15.2217 | -1.87 | 1.84 |
| 93.2 | 15.9825 | 15.2530 | 14.5389 | -1.94 | 1.91 |
| 95.0 | 15.3103 | 14.5920 | 13.8903 | -2.02 | 1.96 |
| 96.8 | 14.6700 | 13.9632 | 13.2743 | -2.09 | 2.03 |
| 98.6 | 14.0599 | 13.3650 | 12.6889 | -2.16 | 2.09 |
| 100.4 | 13.4786 | 12.7957 | 12.1325 | -2.21 | 2.16 |
| 102.2 | 12.9244 | 12.2537 | 11.6035 | -2.29 | 2.23 |
| 104.0 | 12.3960 | 11.7375 | 11.1004 | -2.36 | 2.29 |
| 105.8 | 11.8921 | 11.2459 | 10.6218 | -2.43 | 2.36 |
| 107.6 | 11.4113 | 10.7775 | 10.1665 | -2.50 | 2.41 |
| 109.4 | 10.9526 | 10.3311 | 9.7330 | -2.57 | 2.48 |
| 111.2 | 10.5147 | 9.9056 | 9.3204 | -2.66 | 2.56 |
| 113.0 | 10.0967 | 9.4999 | 8.9275 | -2.74 | 2.61 |
| 114.8 | 9.6976 | 9.1130 | 8.5532 | -2.81 | 2.68 |
| 116.6 | 9.3163 | 8.7439 | 8.1965 | -2.88 | 2.75 |
| 118.4 | 8.9521 | 8.3916 | 7.8566 | -2.95 | 2.83 |
| 120.2 | 8.6040 | 8.0554 | 7.5327 | -3.02 | 2.88 |
| 122.0 | 8.2713 | 7.7345 | 7.2237 | -3.11 | 2.95 |
| 123.8 | 7.9531 | 7.4280 | 6.9291 | -3.19 | 3.02 |
| 125.6 | 7.6489 | 7.1353 | 6.6480 | -3.26 | 3.10 |
| 127.4 | 7.3580 | 6.8556 | 6.3797 | -3.33 | 3.17 |
| 129.2 | 7.0796 | 6.5884 | 6.1237 | -3.42 | 3.22 |
| 131.0 | 6.8131 | 6.3329 | 5.8793 | -3.49 | 3.29 |
| 132.8 | 6.5581 | 6.0887 | 5.6459 | -3.58 | 3.37 |
| 134.6 | 6.3140 | 5.8552 | 5.4230 | -3.65 | 3.44 |
| 136.4 | 6.0802 | 5.6318 | 5.2100 | -3.73 | 3.51 |
| 138.2 | 5.8563 | 5.4181 | 5.0065 | -3.82 | 3.58 |
| 140.0 | 5.6417 | 5.2136 | 4.8120 | -3.89 | 3.65 |
| 141.8 | 5.4361 | 5.0178 | 4.6260 | -3.98 | 3.73 |
| 143.6 | 5.2391 | 4.8304 | 4.4481 | -4.05 | 3.80 |
| 145.4 | 5.0502 | 4.6510 | 4.2780 | -4.14 | 3.87 |
| 147.2 | 4.8691 | 4.4791 | 4.1153 | -4.23 | 3.94 |
| 149.0 | 4.6954 | 4.3145 | 3.9596 | -4.30 | 4.01 |
| 150.8 | 4.5287 | 4.1567 | 3.8105 | -4.39 | 4.09 |
| 152.6 | 4.3689 | 4.0055 | 3.6678 | -4.48 | 4.16 |
| 154.4 | 4.2154 | 3.8605 | 3.5312 | -4.55 | 4.23 |
| 156.2 | 4.0682 | 3.7216 | 3.4004 | -4.64 | 4.30 |
| 158.0 | 3.9268 | 3.5883 | 3.2750 | -4.73 | 4.37 |
| 159.8 | 3.7910 | 3.4605 | 3.1549 | -4.82 | 4.46 |
| 161.6 | 3.6606 | 3.3378 | 3.0398 | -4.91 | 4.54 |
| 163.4 | 3.5353 | 3.2201 | 2.9294 | -4.99 | 4.61 |
| 165.2 | 3.4150 | 3.1072 | 2.8237 | -5.08 | 4.68 |
| 167.0 | 3.2993 | 2.9987 | 2.7222 | -5.17 | 4.75 |

| | | | | | |
|---|---|---|---|---|---|
| 168.8 | 3.1881 | 2.8946 | 2.6249 | -5.26 | 4.82 |
| 170.6 | 3.0812 | 2.7946 | 2.5316 | -5.35 | 4.91 |
| 172.4 | 2.9785 | 2.6986 | 2.4420 | -5.44 | 4.99 |
| 174.2 | 2.8796 | 2.6063 | 2.3560 | -5.53 | 5.06 |
| 176.0 | 2.7845 | 2.5176 | 2.2735 | -5.62 | 5.15 |
| 178.8 | 2.6931 | 2.4324 | 2.1943 | -5.71 | 5.22 |
| 179.6 | 2.6050 | 2.3505 | 2.1182 | -5.80 | 5.29 |
| 181.4 | 2.5203 | 2.2717 | 2.0451 | -5.90 | 5.38 |
| 183.2 | 2.4388 | 2.1960 | 1.9749 | -5.99 | 5.45 |
| 185.0 | 2.3602 | 2.1231 | 1.9075 | -6.08 | 5.53 |
| 186.8 | 2.2846 | 2.0530 | 1.8426 | -6.17 | 5.62 |
| 188.6 | 2.2118 | 1.9856 | 1.7803 | -6.26 | 5.69 |
| 190.4 | 2.1416 | 1.9207 | 1.7204 | -6.37 | 5.76 |
| 192.2 | 2.0740 | 1.8582 | 1.6628 | -6.46 | 5.85 |
| 194.0 | 2.0089 | 1.7981 | 1.6074 | -6.55 | 5.92 |
| 195.8 | 1.9461 | 1.7402 | 1.5541 | -6.66 | 6.01 |
| 197.6 | 1.8856 | 1.6844 | 1.5028 | -6.75 | 6.08 |
| 199.4 | 1.8272 | 1.6307 | 1.4535 | -6.84 | 6.17 |
| 201.2 | 1.7709 | 1.5789 | 1.4060 | -6.95 | 6.25 |
| 203.0 | 1.7166 | 1.5291 | 1.3603 | -7.04 | 6.34 |
| 204.8 | 1.6643 | 1.4810 | 1.3163 | -7.15 | 6.41 |
| 206.6 | 1.6138 | 1.4347 | 1.2739 | -7.24 | 6.50 |
| 208.4 | 1.5650 | 1.3900 | 1.2331 | -7.34 | 6.59 |
| 210.2 | 1.5180 | 1.3470 | 1.1937 | -7.43 | 6.66 |
| 212.0 | 1.4726 | 1.3054 | 1.1559 | -7.54 | 6.75 |
| 213.8 | 1.4287 | 1.2654 | 1.1194 | -7.63 | 6.84 |
| 215.6 | 1.3864 | 1.2268 | 1.0842 | -7.74 | 6.91 |
| 217.4 | 1.3455 | 1.1895 | 1.0503 | -7.85 | 7.00 |
| 219.2 | 1.3060 | 1.1535 | 1.0176 | -7.96 | 7.09 |
| 221.0 | 1.2679 | 1.1188 | 0.9860 | -8.05 | 7.16 |
| 222.8 | 1.2310 | 1.0853 | 0.9556 | -8.15 | 7.25 |
| 224.6 | 1.1954 | 1.0529 | 0.9263 | -8.26 | 7.34 |
| 226.4 | 1.1610 | 1.0217 | 0.8980 | -8.37 | 7.43 |
| 228.2 | 1.1277 | 0.9915 | 0.8707 | -8.46 | 7.51 |
| 230.0 | 1.0955 | 0.9624 | 0.8443 | -8.57 | 7.60 |
| 231.8 | 1.0644 | 0.9342 | 0.8189 | -8.68 | 7.69 |
| 233.6 | 1.0344 | 0.9070 | 0.7943 | -8.78 | 7.78 |
| 235.4 | 1.0053 | 0.8807 | 0.7706 | -8.89 | 7.87 |
| 237.2 | 0.9771 | 0.8553 | 0.7478 | -9.00 | 7.94 |
| 239.0 | 0.9499 | 0.8307 | 0.7256 | -9.11 | 8.03 |
| 240.8 | 0.9235 | 0.8070 | 0.7043 | -9.22 | 8.12 |
| 242.6 | 0.8980 | 0.7840 | 0.6837 | -9.32 | 8.21 |
| 244.4 | 0.8734 | 0.7618 | 0.6637 | -9.43 | 8.30 |
| 246.2 | 0.8495 | 0.7404 | 0.6445 | -9.54 | 8.39 |
| 248.0 | 0.8263 | 0.7196 | 0.6258 | -9.65 | 8.48 |

## Pipe Sensor

R89°F=10KΩ±3%

B89°F/169°F=3700K±3%

| Temp.（°F） | Max.(KΩ) | Normal(KΩ) | Min.(KΩ) | Tolerance(°F) | |
|---|---|---|---|---|---|
| -22..0 | 165.2170 | 147.9497 | 132.3678 | -3.49 | 3.15 |
| -20.2 | 155.5754 | 139.5600 | 125.0806 | -3.47 | 3.13 |
| -18.4 | 146.5609 | 131.7022 | 118.2434 | -3.44 | 3.11 |
| -16.6 | 138.1285 | 124.3392 | 111.8256 | -3.40 | 3.08 |
| -14.8 | 130.2371 | 117.4366 | 105.7989 | -3.37 | 3.06 |
| -13.0 | 122.8484 | 110.9627 | 100.1367 | -3.33 | 3.04 |
| -11.2 | 115.9272 | 104.8882 | 94.8149 | -3.29 | 3.01 |
| -9.4 | 109.4410 | 99.1858 | 89.8106 | -3.26 | 2.99 |
| -7.6 | 103.3598 | 93.8305 | 85.1031 | -3.24 | 2.95 |
| -5.8 | 97.6556 | 88.7989 | 80.6728 | -3.20 | 2.93 |
| -4.0 | 92.3028 | 84.0695 | 76.5017 | -3.17 | 2.92 |
| -2.2 | 87.2775 | 79.6222 | 72.5729 | -3.13 | 2.88 |
| -0.4 | 82.5577 | 75.4384 | 68.8710 | -3.12 | 2.86 |
| 1.4 | 78.1230 | 71.5010 | 65.3815 | -3.06 | 2.83 |
| 3.2 | 73.9543 | 67.7939 | 62.0907 | -3.02 | 2.79 |
| 5.0 | 70.0342 | 64.3023 | 58.9863 | -2.99 | 2.77 |
| 6.8 | 66.3463 | 61.0123 | 56.0565 | -2.95 | 2.74 |
| 8.6 | 62.8755 | 57.9110 | 53.2905 | -2.92 | 2.72 |
| 10.4 | 59.6076 | 54.9866 | 50.6781 | -2.88 | 2.68 |
| 12.2 | 56.5296 | 52.2278 | 48.2099 | -2.84 | 2.65 |
| 14.0 | 53.6294 | 49.6244 | 45.8771 | -2.81 | 2.63 |
| 15.8 | 50.8956 | 47.1666 | 43.6714 | -2.77 | 2.59 |
| 17.6 | 48.3178 | 44.8454 | 41.5851 | -2.72 | 2.56 |
| 19.4 | 45.8860 | 42.6525 | 39.6112 | -2.68 | 2.52 |
| 21.2 | 43.5912 | 40.5800 | 37.7429 | -2.65 | 2.50 |
| 23.0 | 41.4249 | 38.6207 | 35.9739 | -2.61 | 2.47 |
| 24.8 | 39.3792 | 36.7676 | 34.2983 | -2.57 | 2.43 |
| 26.6 | 37.4465 | 35.0144 | 32.7108 | -2.54 | 2.39 |
| 28.4 | 35.6202 | 33.3552 | 31.2062 | -2.48 | 2.36 |
| 30.2 | 33.8936 | 31.7844 | 29.7796 | -2.45 | 2.32 |
| 32.0 | 32.2608 | 30.2968 | 28.4267 | -2.41 | 2.30 |
| 33.8 | 30.7162 | 28.8875 | 27.1431 | -2.38 | 2.27 |
| 35.6 | 29.2545 | 27.5519 | 25.9250 | -2.32 | 2.23 |
| 37.4 | 27.8708 | 26.2858 | 24.7686 | -2.29 | 2.20 |
| 39.2 | 26.5605 | 25.0851 | 23.6704 | -2.25 | 2.16 |
| 41.0 | 25.3193 | 23.9462 | 22.6273 | -2.21 | 2.12 |
| 42.8 | 24.1432 | 22.8656 | 21.6361 | -2.16 | 2.09 |
| 44.6 | 23.0284 | 21.8398 | 20.6939 | -2.12 | 2.05 |
| 46.4 | 21.9714 | 20.8659 | 19.7982 | -2.07 | 2.02 |
| 48.2 | 20.9688 | 19.9409 | 18.9463 | -2.03 | 1.96 |

| | | | | | |
|---|---|---|---|---|---|
| 50.0 | 20.0176 | 19.0621 | 18.1358 | -2.00 | 1.93 |
| 51.8 | 19.1149 | 18.2270 | 17.3646 | -1.94 | 1.89 |
| 53.6 | 18.2580 | 17.4331 | 16.6305 | -1.91 | 1.85 |
| 55.4 | 17.4442 | 16.6782 | 15.9315 | -1.85 | 1.82 |
| 57.2 | 16.6711 | 15.9601 | 15.2657 | -1.82 | 1.78 |
| 59.0 | 15.9366 | 15.2770 | 14.6315 | -1.76 | 1.73 |
| 60.8 | 15.2385 | 14.6268 | 14.0271 | -1.73 | 1.69 |
| 62.4 | 14.5748 | 14.0079 | 13.4510 | -1.67 | 1.66 |
| 64.6 | 13.9436 | 13.4185 | 12.9017 | -1.64 | 1.62 |
| 66.2 | 13.3431 | 12.8572 | 12.3778 | -1.58 | 1.57 |
| 68.0 | 12.7718 | 12.3223 | 11.8780 | -1.55 | 1.53 |
| 69.8 | 12.2280 | 11.8126 | 11.4011 | -1.49 | 1.49 |
| 71.6 | 11.7102 | 11.3267 | 10.9459 | -1.46 | 1.44 |
| 73.4 | 11.2172 | 10.8634 | 10.5114 | -1.40 | 1.40 |
| 75.2 | 10.7475 | 10.4216 | 10.0964 | -1.35 | 1.35 |
| 77.0 | 10.3000 | 10.0000 | 9.7000 | -1.35 | 1.35 |
| 78.8 | 9.8975 | 9.5974 | 9.2980 | -1.37 | 1.37 |
| 80.6 | 9.5129 | 9.2132 | 8.9148 | -1.44 | 1.44 |
| 82.4 | 9.1454 | 8.8465 | 8.5496 | -1.51 | 1.49 |
| 84.2 | 8.7942 | 8.4964 | 8.2013 | -1.57 | 1.55 |
| 86.0 | 8.4583 | 8.1621 | 7.8691 | -1.64 | 1.62 |
| 87.8 | 8.1371 | 7.8428 | 7.5522 | -1.71 | 1.67 |
| 89.6 | 7.8299 | 7.5377 | 7.2498 | -1.76 | 1.75 |
| 91.4 | 7.5359 | 7.2461 | 6.9611 | -1.84 | 1.80 |
| 93.2 | 7.2546 | 6.9673 | 6.6854 | -1.91 | 1.87 |
| 95.0 | 6.9852 | 6.7008 | 6.4222 | -1.98 | 1.93 |
| 96.8 | 6.7273 | 6.4459 | 6.1707 | -2.03 | 2.00 |
| 98.6 | 6.4803 | 6.2021 | 5.9304 | -2.11 | 2.05 |
| 100.4 | 6.2437 | 5.9687 | 5.7007 | -2.18 | 2.12 |
| 102.2 | 6.0170 | 5.7454 | 5.4812 | -2.25 | 2.20 |
| 104.0 | 5.7997 | 5.5316 | 5.2712 | -2.32 | 2.25 |
| 105.8 | 5.5914 | 5.3269 | 5.0704 | -2.39 | 2.32 |
| 107.6 | 5.3916 | 5.1308 | 4.8783 | -2.47 | 2.39 |
| 109.4 | 5.2001 | 4.9430 | 4.6944 | -2.54 | 2.45 |
| 111.2 | 5.0163 | 4.7630 | 4.5185 | -2.61 | 2.52 |
| 113.0 | 4.8400 | 4.5905 | 4.3500 | -2.68 | 2.59 |
| 114.8 | 4.6708 | 4.4252 | 4.1887 | -2.75 | 2.65 |
| 116.6 | 4.5083 | 4.2666 | 4.0342 | -2.83 | 2.72 |
| 118.4 | 4.3524 | 4.1145 | 3.8862 | -2.90 | 2.79 |
| 120.2 | 4.2026 | 3.9686 | 3.7443 | -2.97 | 2.86 |
| 122.0 | 4.0588 | 3.8287 | 3.6084 | -3.06 | 2.92 |
| 123.8 | 3.9206 | 3.6943 | 3.4780 | -3.13 | 2.99 |
| 125.6 | 3.7878 | 3.5654 | 3.3531 | -3.20 | 3.06 |
| 127.4 | 3.6601 | 3.4416 | 3.2332 | -3.28 | 3.13 |
| 129.2 | 3.5374 | 3.3227 | 3.1183 | -3.37 | 3.20 |

| | | | | | |
|---|---|---|---|---|---|
| 131.0 | 3.4195 | 3.2085 | 3.0079 | -3.44 | 3.28 |
| 132.8 | 3.3060 | 3.0989 | 2.9021 | -3.51 | 3.33 |
| 134.6 | 3.1969 | 2.9935 | 2.8005 | -3.60 | 3.40 |
| 136.4 | 3.0919 | 2.8922 | 2.7029 | -3.67 | 3.47 |
| 138.2 | 2.9909 | 2.7948 | 2.6092 | -3.74 | 3.55 |
| 140.0 | 2.8936 | 2.7012 | 2.5193 | -3.83 | 3.62 |
| 141.8 | 2.8000 | 2.6112 | 2.4328 | -3.91 | 3.69 |
| 143.6 | 2.7099 | 2.5246 | 2.3498 | -4.00 | 3.76 |
| 145.4 | 2.6232 | 2.4413 | 2.2700 | -4.07 | 3.83 |
| 147.2 | 2.5396 | 2.3611 | 2.1932 | -4.16 | 3.91 |
| 149.0 | 2.4591 | 2.2840 | 2.1195 | -4.25 | 3.98 |
| 150.8 | 2.3815 | 2.2098 | 2.0486 | -4.32 | 4.05 |
| 152.6 | 2.3068 | 2.1383 | 1.9803 | -4.41 | 4.12 |
| 154.4 | 2.2347 | 2.0695 | 1.9147 | -4.48 | 4.21 |
| 156.2 | 2.1652 | 2.0032 | 1.8516 | -4.57 | 4.28 |
| 158.0 | 2.0983 | 1.9393 | 1.7908 | -4.66 | 4.36 |
| 159.8 | 2.0337 | 1.8778 | 1.7324 | -4.73 | 4.43 |
| 161.6 | 1.9714 | 1.8186 | 1.6761 | -4.82 | 4.50 |
| 163.4 | 1.9113 | 1.7614 | 1.6219 | -4.91 | 4.57 |
| 165.2 | 1.8533 | 1.7064 | 1.5697 | -5.00 | 4.84 |
| 167.0 | 1.7974 | 1.6533 | 1.5194 | -5.09 | 4.73 |
| 168.8 | 1.7434 | 1.6021 | 1.4710 | -5.18 | 4.81 |
| 170.6 | 1.6913 | 1.5528 | 1.4243 | -5.26 | 4.88 |
| 172.4 | 1.6409 | 1.5051 | 1.3794 | -5.35 | 4.95 |
| 174.2 | 1.5923 | 1.4592 | 1.3360 | -5.44 | 5.04 |
| 176.0 | 1.5454 | 1.4149 | 1.2942 | -5.53 | 5.11 |
| 177.8 | 1.5000 | 1.3721 | 1.2540 | -5.62 | 5.18 |
| 179.6 | 1.4562 | 1.3308 | 1.2151 | -5.71 | 5.27 |
| 181.4 | 1.4139 | 1.2910 | 1.1776 | -5.80 | 5.35 |
| 183.2 | 1.3730 | 1.2525 | 1.1415 | -5.89 | 5.42 |
| 185.0 | 1.3335 | 1.2153 | 1.1066 | -5.98 | 5.51 |
| 186.8 | 1.2953 | 1.1794 | 1.0730 | -6.08 | 5.58 |
| 198.6 | 1.2583 | 1.1448 | 1.0405 | -6.17 | 5.67 |
| 190.4 | 1.2226 | 1.1113 | 1.0092 | -6.26 | 5.74 |
| 192.2 | 1.1880 | 1.0789 | 0.9789 | -6.35 | 5.83 |
| 194.0 | 1.1546 | 1.0476 | 0.9497 | -6.44 | 5.90 |
| 195.8 | 1.1223 | 1.0174 | 0.9215 | -6.55 | 5.99 |
| 197.6 | 1.0910 | 0.9882 | 0.8942 | -6.64 | 6.07 |
| 199.4 | 1.0607 | 0.9599 | 0.8679 | -6.73 | 6.16 |
| 201.2 | 1.0314 | 0.9326 | 0.8424 | -6.84 | 6.23 |
| 203.0 | 1.0030 | 0.9061 | 0.8179 | -6.93 | 6.32 |
| 204.8 | 0.9756 | 0.8806 | 0.7941 | -7.02 | 6.39 |
| 206.6 | 0.9490 | 0.8558 | 0.7711 | -7.13 | 6.48 |
| 208.4 | 0.9232 | 0.8319 | 0.7489 | -7.22 | 6.55 |
| 210.2 | 0.8983 | 0.8088 | 0.7275 | -7.33 | 6.64 |

| | | | | | |
|---|---|---|---|---|---|
| 212.0 | 0.8741 | 0.7863 | 0.7067 | -7.42 | 6.73 |
| 213.8 | 0.8507 | 0.7646 | 0.6867 | -7.52 | 6.80 |
| 215.6 | 0.8281 | 0.7436 | 0.6672 | -7.61 | 6.89 |
| 217.4 | 0.8061 | 0.7233 | 0.6484 | -7.72 | 6.98 |
| 219.2 | 0.7848 | 0.7036 | 0.6303 | -7.81 | 7.06 |
| 221.0 | 0.7641 | 0.6845 | 0.6127 | -7.92 | 7.15 |
| 222.8 | 0.7441 | 0.6661 | 0.5957 | -8.03 | 7.24 |
| 224.6 | 0.7247 | 0.6482 | 0.5792 | -8.12 | 7.33 |
| 226.4 | 0.7059 | 0.6308 | 0.5632 | -8.23 | 7.42 |
| 228.2 | 0.6877 | 0.6140 | 0.5478 | -8.33 | 7.49 |
| 230.0 | 0.6700 | 0.5977 | 0.5328 | -8.44 | 7.58 |
| 231.8 | 0.6528 | 0.5820 | 0.5183 | -8.53 | 7.67 |
| 233.6 | 0.6361 | 0.5667 | 0.5043 | -8.64 | 7.76 |
| 235.4 | 0.6200 | 0.5518 | 0.4907 | -8.75 | 7.85 |
| 237.2 | 0.6043 | 0.5374 | 0.4775 | -8.86 | 7.94 |
| 239.0 | 0.5891 | 0.5235 | 0.4648 | -8.96 | 8.01 |
| 240.8 | 0.5743 | 0.5100 | 0.4524 | -9.07 | 8.10 |
| 242.6 | 0.5600 | 0.4968 | 0.4404 | -9.18 | 8.19 |
| 244.4 | 0.5460 | 0.4841 | 0.4288 | -9.29 | 8.28 |
| 246.2 | 0.5325 | 0.4717 | 0.4175 | -9.40 | 8.37 |
| 248.0 | 0.5194 | 0.4597 | 0.4066 | -9.50 | 8.46 |

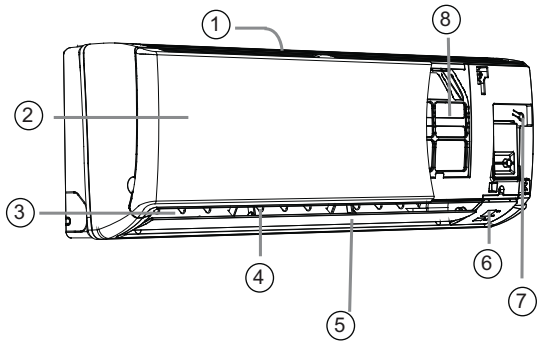
# 6. System Configuration

## 6.1 System Configuration

After the installation and test operation of the room air conditioner have been completed, it should be operated and handled as described below. Every user would like to know the correct method of operation of the room air conditioner, to check if it is capable of cooling (or heating) well, and to know a clever method of using it.In order to meet this expectation of the users, giving sufficient explanations taking enough time can be said to reduce about 80% of the requests for servicing. However good the installation work is and however good the functions are, the customer may blame either the room air conditioner or its installation work because of improper handling. The installation work and handing over of the unit can only be considered to have been completed when its handling has been explained to the user without using technical terms but giving full knowledge of the equipment.

# 6.2Parts and Functions

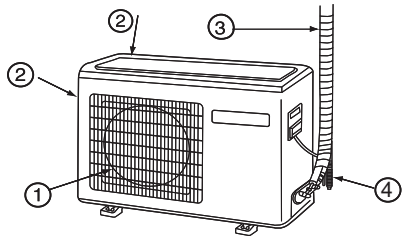
## Indoor Unit




① Inlet
② Frant cover
③ Outlet
④ Vertical blade
(adjust left and right air flow)
⑤ Horizontal flap
(adjust up and down air flow.
Don't adjust it manually)
⑥ Display board
⑦ Emergency Switch
⑧ Air Purifying Filter
(inside)

The unit pictured above is for reference only.
Your product may appear different.

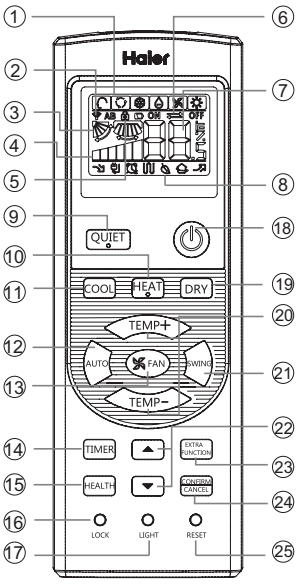
## Outdoor Unit




① OUTLET
② INLET
③ CONNECTING PIPING AND ELECTRICAL WIRING
④ DRAIN HOSE

The unit pictured above is for reference only.
Your product may appear different.

## Remote controller




1. Mode display

| Operation mode | AUTO | COOL | DRY | HEAT | FAN |
|---|---|---|---|---|---|
| Remote controller | | | | | |

2. Signal sending display
3. SWING display
4. FAN SPEED display

LO → MED → HI → Display circulated AUTO

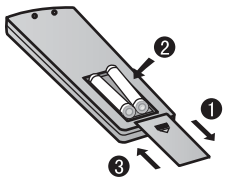
5. LOCK display
6. TIMER OFF display
TIMER ON display
7.TEMP display
8.Additional functions display

| Operation mode | QUITE | SLEEP | HEALTH | POWER |
|---|---|---|---|---|
| Remote controller | | | | |

9. QUIET button
10. HEAT button
11. COOL button
12. AUTO button
13. FAN button
14. TIMER button
15. HEALTH button
16. LOCK button
Used to lock buttons and LCD display.
17. LIGHT button
Control the lightening and extinguishing of the indoor LED display board.
18. POWER ON/OFF button
19. DRY button
20. TEMP button
21. SWING button
22. HOUR button
23. EXTRA FUNCTION button
Function：Fan Mode→Healthy airflow upwarder →Healthy airflow downwarder→Reset the healthy airflow position →Right & left airflow setting→A-B yard→50℉ low temperature heating→Sleep Mode→Electrical Heating→Refresh Air→Power →Fahrenheit/Celsius mode shift on unit and remote
**Remark:** A-B yard, Right & left airflow setting, 50℉ low temperature heating, Electrical Heating, Refresh Air functions are not available for this mini split series.
24.CANCEL/CONFIRM button
Function: Setting and cancel to the timer and other additional functions.
25. RESET button
If the remote appears abnormal, use a pen point or similar object to depress the button to reset the remote

Healthy function is not available for some units.

## Loading of the battery




1 Remove the battery cover;
2 Load the batteries as illustrated.
2 AAA batteries.
3 Be sure battery polarity is correct " + "/"-";
4 Load the battery,then put on the cover again.

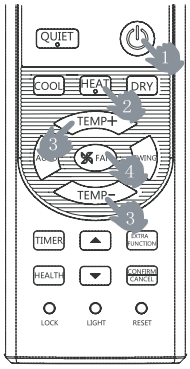
Note:
- The distance from the remote to the receiver should be less than 23 feet (7 meters) with no obstructions.
- Fluorescent lights or cordless telephones will reduce the range of the remote.
- If the display is dim the remote batteries may need to be replaced.
- Remote malfunctions can sometimes be corrected by removing the batteries for a few minutes and then replacing them.

Hint:
Remove the batteries if the unit won't be in use for a long period. If there is any display after taking-out the batteries, just press reset key.

# Operation

## Base Operation

Remote controller

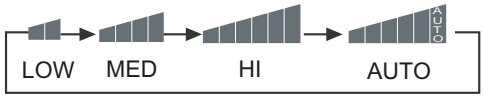



1. Unit start
   Press ON/OFF on the remote controller, unit starts.

2. Select operation mode
   COOL button:Cooling mode
   HEAT button: Heating mode
   DRY button: Dehumidify mode

3.Select temp.setting
   Press TEMP+ / TEMP− button
   TEMP+ Every time the button is pressed, temp.setting increase 1℃ / 2 °F, if kept depressed, it will increase rapidly
   TEMP− Every time the button is pressed, temp.setting decrease 1℃ / 2 °F, if kept depressed, it will decrease rapidly
   Select a desired temperature.

4.Fan speed selection
   Press FAN button. For each press, fan speed changes as follows:
   Remote controller:




Air conditioner is running under displayed fan speed. When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature.

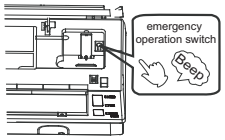
| Operation Mode | Remote Controller | Note |
|---|---|---|
| AUTO | | Under the mode of auto operation, air conditioner will automatically select Cool or Heat operation according to room temperature. When FAN is set to AUTO the air conditioner automatically adjusts the fan speed according to room temperature. |
| COOL | | |
| DRY | | In DRY mode , when room temperature is 2 °C/4 °F degrees less than the temperature set point, the unit will run intermittently at LOW speed regardless of FAN setting. |
| HEAT | | In HEAT mode, warm air will blow out after a short period of the time due to cold-draft prevention function. When FAN is set to AUTO, the air conditioner automatically adjusts the fan speed according to room temperature. |
| FAN | | In FAN operation mode , the unit will not operate in COOL or HEAT mode but only in FAN mode, AUTO is not available in FAN mode. And temp. setting is disabled. In FAN mode, sleep operation is not available. |

## Emergency operation and test operation

### Emergency Operation:

- Use this operation only when the remote controller is defective or lost, and with function of emergency running, air conditoner can run automatically for a while.
- When the emergency operation switch is pressed, the unit beeps once, which means the start of this operation.
- When power switch is turning on for the first time and emergency operation starts, the unit will run automatically in the following modes:

| Room temperature | Designated temperature | Timer mode | Fan speed | Operation mode |
|---|---|---|---|---|
| Above 74°F | 78°F | No | AUTO | COOL |
| Below 74°F | 74°F | No | AUTO | HEAT |

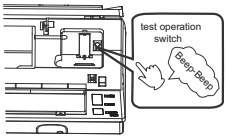



- During emergency operation it is impossible to change the settings of temp. and fan speed,It is also not possible to operate in timer or dry mode.

### Test operation:

Test operation switch is the same as emergency switch.

- Use this switch in the test operation when the room temperature is below 60°F, do not use it in the normal operation.
- Continue to press the test operation switch for more than 5 seconds.After you hear two beeps, release your finger from the switch: the cooling operation starts with the air flow speed "Hi".
- Under this operation mode,the fan motor of indoor unit will run in high speed.




## Air Flow Direction Adjustment

### 1.Status display of air flow

COOL/DRY:

### 2.Left and right air flow adjustment(manual)

Move the vertical blade by a knob on air conditioner to adjust left and right direction to achieve stereoscopic air flow as the figure below.

stereoscopic air flow

### Cautions:

- When adjusting the flap by hand,turn off the unit.
- When humidity is high,condensate water might occur at air outlet if all vertical louvers are adjusted to left or right.
- It is advisable not to keep horizontal flap at downward position for a long time in COOLor DRY mode , otherwise, condensate water might occur.

Note:

When restarting the unit after it has been turned off, the unit will keep the swing position before it stops working.

# Operation

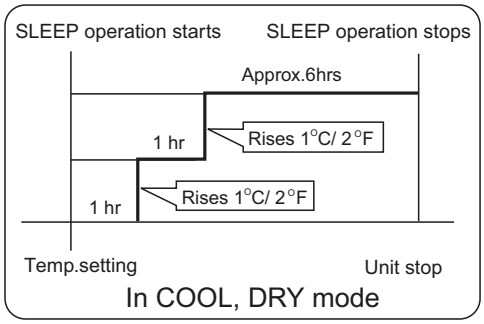
## Sleep Operation

Press EXTRA FUNCTION button to enter additional options, cycle the display to , will flash. And then press CONFIRM CANCEL enter for sleep function.

### Operation Mode

1. In COOL,DRY mode

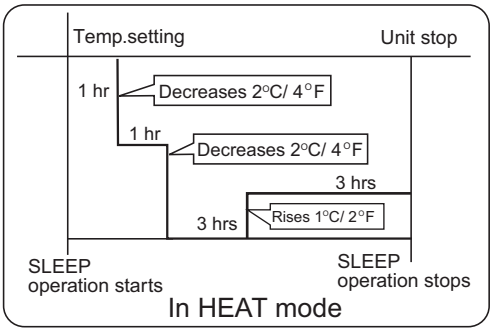
1 hours after SLEEP mode starts,temp.will become 1°C/2°F higher than temp.setting.After another 1 hours,temp.rises by 1°C / 2°F futher. The unit will run for further 6 hours then stops Temp. is higher than temp.setting so that room temperature won't be too low for your sleep.



In COOL, DRY mode

2. In HEAT mode

1 hours after SLEEP mode starts,temp will become 2°C / 4°F lower than temp.setting.After another 1 hours,temp decrease by 2°C / 4°F futher.After more another 3 hours, temp. rises by 1°C / 2°F futher.The unit will run for further 3 hours then stops.Temp.is lower than temp. setting so that room temperature won't be too high for your sleep.



In HEAT mode

3. In AUTO mode

If the unit is running cooling, the sleep mode will follow the function as in cool mode, while follow as in heat mode.

4. In FAN mode

It has no SLEEP function.

5.Fan Speed in Sleep Mode

When the unit is set to sleep mode, the fan speed will be set to low speed and it cannot be changed.

### Note

When TIMER function is set, the sleep function can't be set up .After the sleep function is set up, if user resets TIMER function, the sleep function will be cancelled; the machine will be in the state of timing-on.

## POWER/QUIET Operation

### (1) POWER Operation

When you need rapid heating or cooling, you can use this function.

Press EXTRA FUNCTION button to enter additional options, cycle the display to , will flash, and then press CONFIRM CANCEL ,enter to power function. To cancel this function, please select a different option.

### (2) QUIET Operation

You can use this function when silence is needed for rest or reading.

Press QUIET button, the remote controller will show , and then achieve to the quiet function. To cancel this function, press the QUIET button again and it will be canceled.

### Note：

Running the unit in QUIET mode for a long period may cause the room temperature to not reach the set temperature. If this occurs, cancel QUITE mode and set the fan speed to a higher setting.

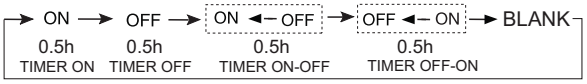
# Operation

## Timer On/Off On-Off Operation

1.After unit starts, select your desired operation mode.

2.Press TIMER button to change TIMER mode. Every time the button is pressed, display changes as follows:

Remote controller:




Then select your desired TIMER mode (TIMER ON or TIMER OFF or TIMER ON-OFF). " ON "or " OFF "will flash.

3.Press ▼ / ▲ button to set time.

▲ Press the button for each time, setting time in the first 12 hours increased by 0.5 hour every time, after 12 hours,increased by 1 hour every time.

▼ Press the button for each time, settiing time in the first 12 hours decreased by 0.5 hour every time, after 12 hours,decreased by 1 hour every time.
It can be adjusted within 24 hours.

4.Confirm timer setting

After adjusting the time,press CONFIRM CANCEL button and confirm the time the ON or OFF button will not flash any more.

5.Cancel timer setting

Press the timer button until the time display eliminated.

Hints:

After replacing batteries or a power failure happens, time setting should be reset.

According to the Time setting sequence of TIMER ON or TIMER OFF, either Start-Stop or Stop-Start can be achieved.

## Healthy airflow Operation

1.Press ⏻ to starting

Setting for comfortable conditions.

2.The setting of healthy airflow function

Press EXTRA FUNCTION button to enter additional options,Press this button continuously, the louvers location will cycle between in the following three locations, to choose the swing location what you needed,and then press CONFIRM CANCEL button to confirm.

3.To cancel of the healthy airflow function

Press EXTRA FUNCTION button to enter additional options,Press this button continuously, the louvers location will cycle between the three locations again,and then press CONFIRM CANCEL button to cancel.

Notice: Do not direct the horizontal by hand. This may cause the louver to run incorrectly and not match the display. If the louver is not running correctly, stop the unit for a minute and then restart and adjust remote controller.

Note:

1.After setting the healthy airflow function, the position louver is fixed.

2.In heating, it is better to select the mode.

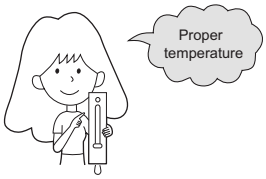
3.In cooling, it is better to select the mode.

4.In cooling and dry, using the air conditioner for a long time under the high air humidity, condensate water may occur at the grille .

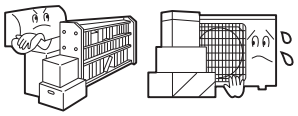
# Maintenance

## For Smart Use of The Air Conditioner

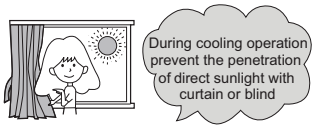
### Setting of proper room temperature



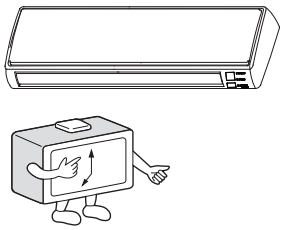

### Do not block the air inlet or outlet



### Close doors and windows during operation

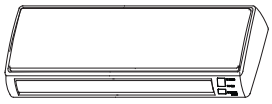



### Use the timer effectively



### If the unit is not to be used for a long time, turn off the power supply main switch.

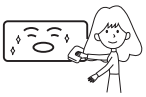
### Use the louvers effectively



### Remote Controller

Do not usewater,wipe the controller with a dry cloth.Do not use glass cleaner or chemical cloth.

### Indoor Body



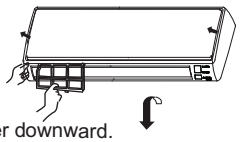
wipe the air conditioner by using a soft and dry cloth.For serious stains, use a neutral detergent diluted with water.Wring the water out of the cloth before wiping,then wipe off the detergent completely.

### Do not use the following for cleaning

Gasoline,benzine, thinner or cleanser may damage the coating of the unit.

Hot water over 40°C(104°F) may cause discoloring or deformation.

### Air Filter cleaning



1 Open the inlet grille by pulling it upward.

2 Remove the filter.
Push up the filter's center tab slightly until it is released from the stopper, and remove the filter downward.

3 Clean the filter.
Use a vacuum cleaner to remove dust, or wash the filter with water. After washing, dry the filter completely before putting it back in the unit.

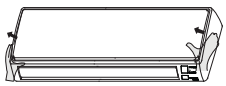
4 Attach the filter.
Attach the filter correctly so that the "FRONT" indication is facing to the front.Make sure that the filter is completely fixed behind the stopper.If the right and left filters are not attached correctly, that may cause defects.

5 Close the inlet grille.

## Replacement of Air Purifying Filter

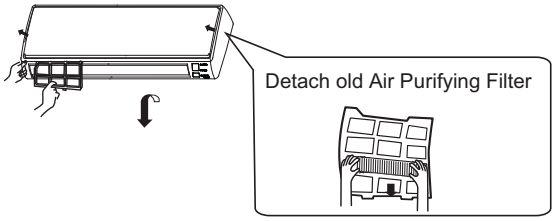
### 1.Open the Inlet Grille

Prop up the inlet grille by using the grille-support located an the right side of the indoor unit.



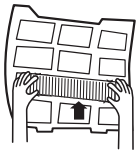
### 2.Detach the standard air filter

Slide the knob slightly upward to release the filter, then withdraw it.



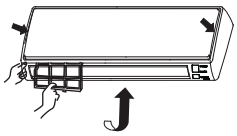

### 3.Attach Air Purifying Filter

Put air purifying filter into the right and left filter frames.



### 4.Attach the standard air filter

(Necessary installation)



ATTENTION:

The white side of the photocatalyst air purifying filter face outside,and the black side face the unit The green side of the bacteria-killing medium air purifying filter face outside,and the white side face the unit.

### 5.Close the Inlet Grille

Close the Grille securely

NOTE:

- The photocatalyst air purifying filter will be solarized in fixed time. In normal family, it will be solarized every 6 months.
- The bacteria-killing medium air purifying filter will be used for a long time,no need for replacement. But in the period of using them ,you should remove the dust frequently by using vacuum cleaner or flapping them lightly,otherwise , its performance will be affected.
- Please keep the bacteria-killing medium air purifying filter cool and dry. Avoid long term exposure to sunlight when not in use its ability of sterilization will be reduced.

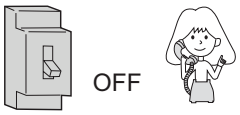
# Cautions

## ⚠ WARNING

This system should be installed by a qualified HVAC professional.
Do not attempt to install the air conditioner by yourself improper installation may cause fire, water leakage, personal injury or death.

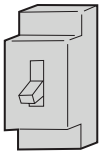
## ⚠ WARNING

If something abnormal occurs immediately stop the operation button and contact service technician.



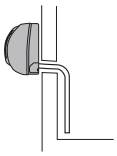

STRICT ENFORCEMENT

Use an exclusive power source with a circuit breaker



Check proper installation of the drainage securely

STRICT ENFORCEMENT



Connect power supply cord to the outlet completely

STRICT ENFORCEMENT

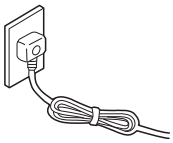
Use the proper voltage

STRICT ENFORCEMENT

1.Do not use power supply cord extended or connected in halfway
2.Do not install in the place where there is any possibility of inflammable gas leakage around the unit.
3.Do not get the unit exposed to vapor or oil steam.

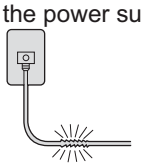
PROHIBITION

Do not use power supply cord in a bundle.



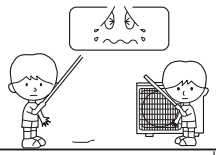
PROHIBITION

Take care not to damage the power supply cord.



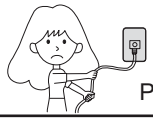
PROHIBITION

Do not insert objects into the air inlet or outlet.



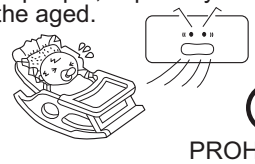
PROHIBITION

Do not start or stop the operation by disconnecting the power supply cord and so on.



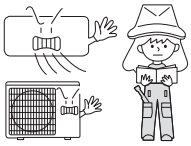
PROHIBITION

Do not channel the air flow directly at people, especially at infants or the aged.

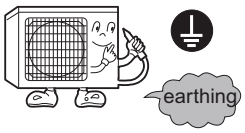


PROHIBITION

Do not try to repair by yourself.

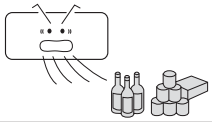


Connect the earth cable.



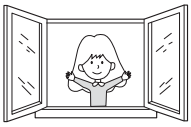

## ⚠ CAUTION

Do not use for the purpose of storage of food, art work, precise equipment, breeding, or cultivation.



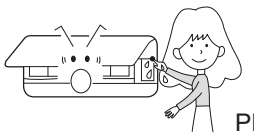
PROHIBITION

Take fresh air occasionally especially when gas appliance is running at the same time.



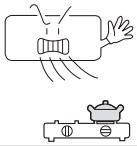
STRICT ENFORCEMENT

Do not operate the switch with wet hand.



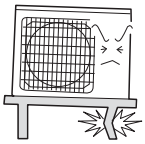
PROHIBITION

Do not install the unit near a fireplace or other heating apparatus.



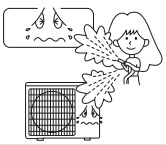
PROHIBITION

Check good condition of the installation stand



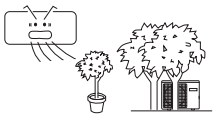
PROHIBITION

Do not pour water onto the unit for cleaning



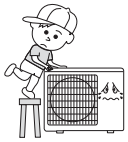
PROHIBITION

Do not place animals or plants in the direct path of the air flow



PROHIBITION

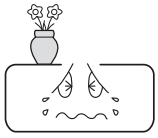
Do not place any objects on or climb on the unit.



PROHIBITION

Do not place flower vase or water containers on the top of the unit.

PROHIBITION



# Trouble shooting

*Before asking for service, check the following first.*

| | Phenomenon | Cause or check points |
|---|---|---|
| Normal Performance inspection | The system does not restart immediately. | • When unit is stopped, it won't restart immediately until 3 minutes have elapsed to protect the system.<br>• When the electric plug is pulled out and reinserted, the protection circuit will work for 3 minutes to protect the air conditioner. |
| | Noise is heard | • During unit operation or at stop, a swishing or gurgling noise may be heard.At first 2-3 minutes after unit start, this noise is more noticeable. (This noise is generated by refrigerant flowing in the system.)<br>• During unit operation, a cracking noise may be heard.This noise is generated by the casing expanding or shrinking because of temperature changes.<br>• Should there be a big noise from air flow in unit operation, air filter may be too dirty. |
| | Smells are generated. | • This is because the system circulates smells from the interior air such as the smell of furniture, paint, cigarettes. |
| | Mist or steam are blown out. | • During COOL or DRY operation, indoor unit may blow out mist. This is due to the sudden cooling of indoor air. |
| | In dry mode,fan speed can't be changed. | • In DRY mode, when room temperature becomes lower than temp. setting+2 °C,unit will run intermittently at LOW speed regardless of FAN setting. |
| Multiple check | | • Is power plug inserted?<br>• Is there a power failure?<br>• Is fuse blownout? |
| | Poor cooling | • Is the air filter dirty? Normally it should be cleaned every 15 days.<br>• Are there any obstacles before inlet and outlet?<br>• Is temperature set correctly?<br>• Are there some doors or windows left open?<br>• Is there any direct sunlight through the window during the cooling operation?(Use curtain)<br>• Are there too much heat sources or too many people in the room during cooling operation? |

# Cautions

- Do not obstruct or cover the ventilation grille of the air conditoner.Do not put fingers or any other things into the inlet/outlet and swing louver.
- Do not allow children to play with the air conditioner.In no case should children be allowed to sit on the outdoor unit.

## Specifications

- The refrigerating circuit is a sealed system.

## The machine is adaptive in following situation

1.Applicable ambient temperature range:

| | | | |
|---|---|---|---|
| Cooling | Indoor | Maximum:D.B/W.B | 89.6°F /73.4°F |
| | | Minimum:D.B/W.B | 67°F/57°F |
| | Outdoor | Maximum:D.B/W.B | 115°F/75°F |
| | | Minimum: D.B | 67°F/57°F |
| Heating | Indoor | Maximum:D.B | 80.6°F |
| | | Minimum: D.B | 32°F |
| | Outdoor | Maximum:D.B/W.B | 75°F/65°F |
| | | Minimum:D.B/W.B | 19.4°F |
| | Outdoor (INVERTER) | Maximum:D.B/W.B | 75°F/65°F |
| | | Minimum:D.B | 5°F |

2. If the power supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similar qualified person.

3.If the fuse of indoor unit on PC board is broken,please change it with the type of T. 3.15A/ 250V. If the fuse of outdoor unit is broken,change it with the type of T.25A/250V

4. The wiring method should be in line with the local wiring standard.

5. After installation, the power plug should be easily reached.

6. When replacing batteries, the batteries removed should be disposed of properly.

7. The appliance is not intended for use by young children without supervision.

8. Young children should be supervised to ensure that they do not play with the appliance.

9. Please employ the proper power plug,which fit into the power supply cord.

10. The power plug and connecting cable must have acquired the local attestation.

11.In order to protect the units,please turn off the A/C first,and at least 30 seconds later, cutting off the power.

# 7.Codes and Description

## 7.1.Problem Symptoms and Measures

| Symptom | Check Item | Details of Measure |
|---|---|---|
| None of the units operates | Check the power supply. | Check to make sure that the rated voltage is supplied. |
| | Check the indoor PCB | Check to make sure that the indoor PCB is broken |
| Equipment operates but does not cool, or does not heat (only for heat pump) | Diagnosis by service port pressure and operating current. | Check for insufficient gas. |
| Large operating noise and vibrations | Check the installation condition. | Check to make sure that the required spaces for installation (specified in the Technical Guide, etc.) are provided. |

## 7.2 Error Codes and Description indoor display

| | Code indication | Description | Reference Page |
|---|---|---|---|
| | indoor | | |
| Indoor Malfunction | E1 | Room temperature sensor failure | 32 |
| | E2 | Heat-exchange sensor failure | 32 |
| | E4 | Indoor EEPROM error | 32 |
| | E14 | Indoor fan motor malfunction | 33 |

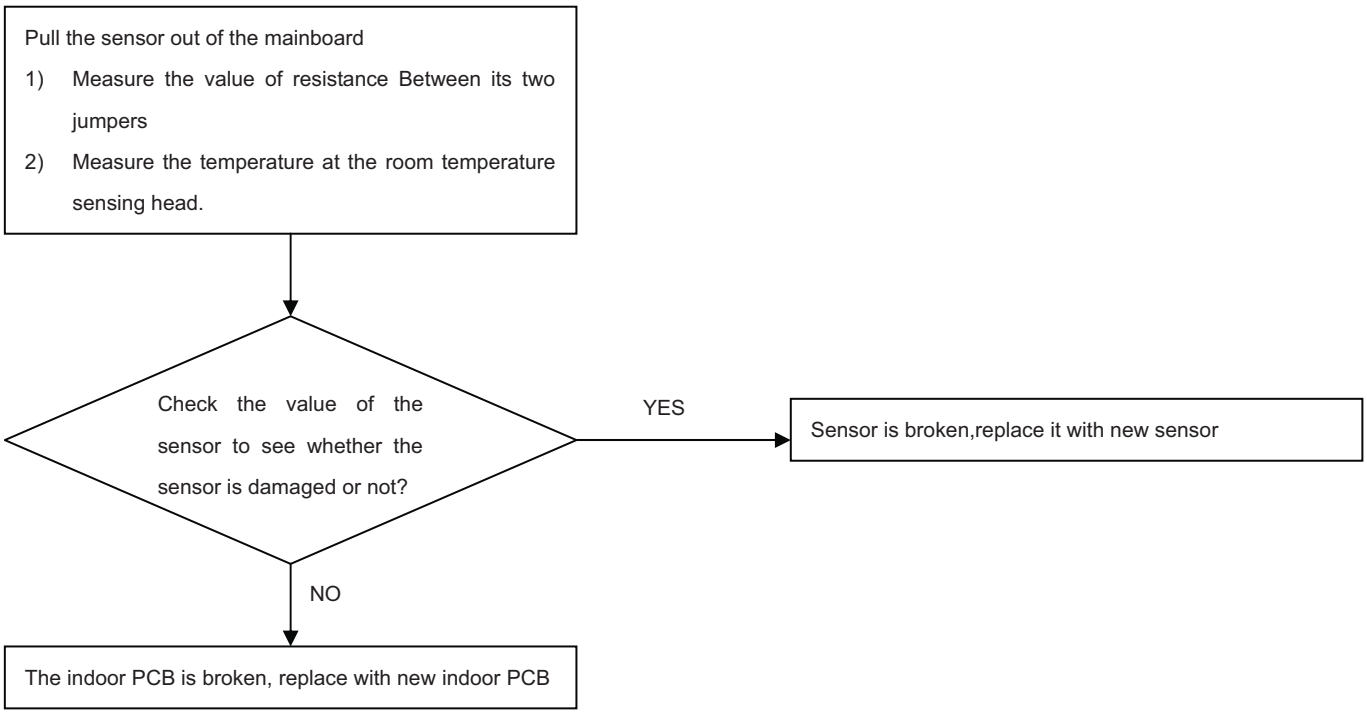
**The code indication that is listed above is the main fault**

**Troubleshooting**

**Caution**：Be sure to turn off power switch before connect or disconnect connector, or else parts damage may be occurred.

E1: Room temperature sensor failure CN6

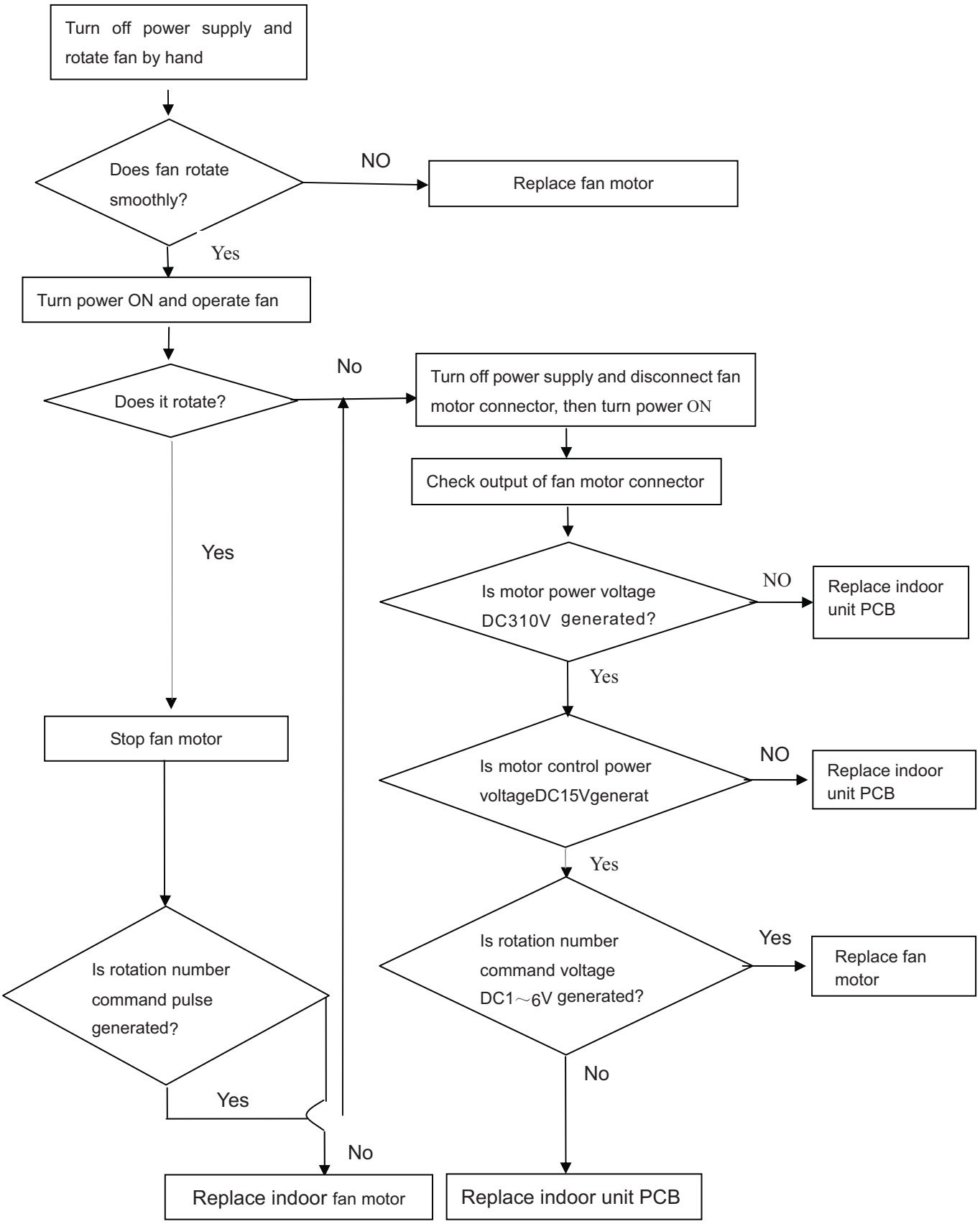
E2: Heat-exchange sensor failure CN6


Pull the sensor out of the mainboard
1) Measure the value of resistance Between its two jumpers
2) Measure the temperature at the room temperature sensing head.
Check the value of the sensor to see whether the sensor is damaged or not?
YES
Sensor is broken,replace it with new sensor
NO
The indoor PCB is broken, replace with new indoor PCB

E4：Indoor EEPROM error：Replace the PCB of indoor unit

E14: Indoor fan motor malfunction

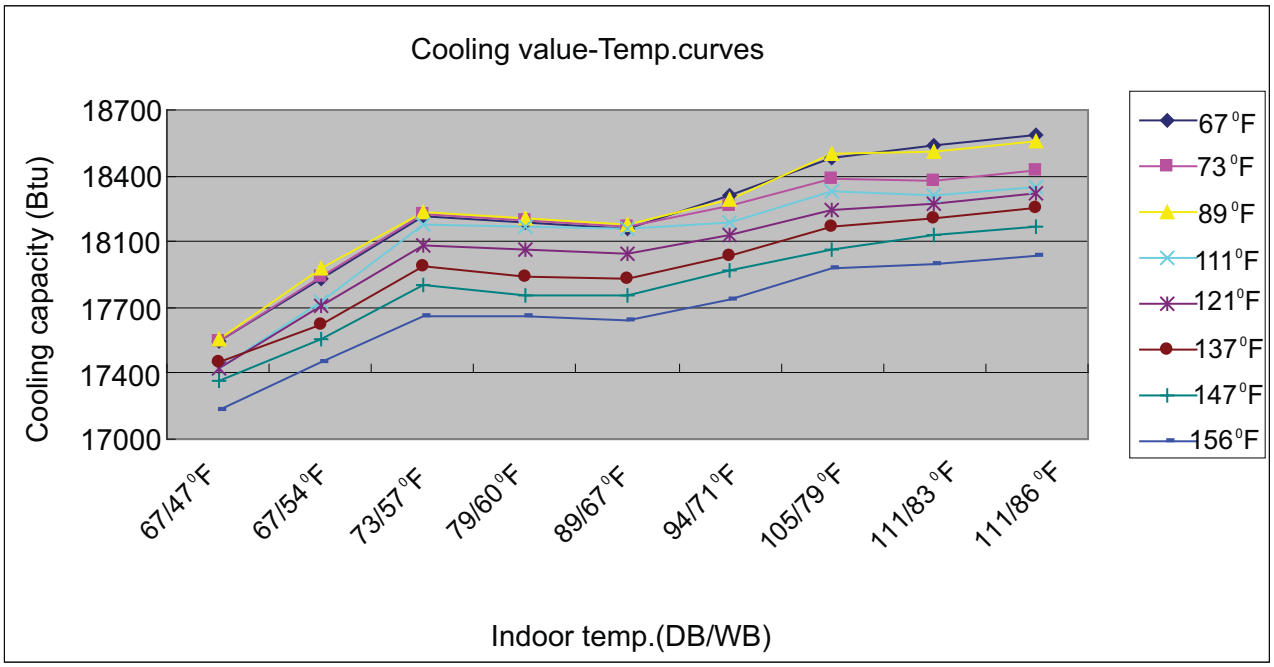
Notes: When the unit is on, don't pull out or insert the terminal of the motor (CN26), or else the motor would be damaged.


Turn off power supply and rotate fan by hand
Does fan rotate smoothly?
NO
Replace fan motor
Yes
Turn power ON and operate fan
Does it rotate?
No
Turn off power supply and disconnect fan motor connector, then turn power ON
Check output of fan motor connector
Is motor power voltage DC310V generated?
NO
Replace indoor unit PCB
Yes
Yes
Stop fan motor
Is motor control power voltageDC15Vgenerat
NO
Replace indoor unit PCB
Yes
Is rotation number command pulse generated?
Is rotation number command voltage DC1～6V generated?
Yes
Replace fan motor
No
Yes
No
Replace indoor fan motor
Replace indoor unit PCB

# 8.Capacity diagrams and curves diagrams

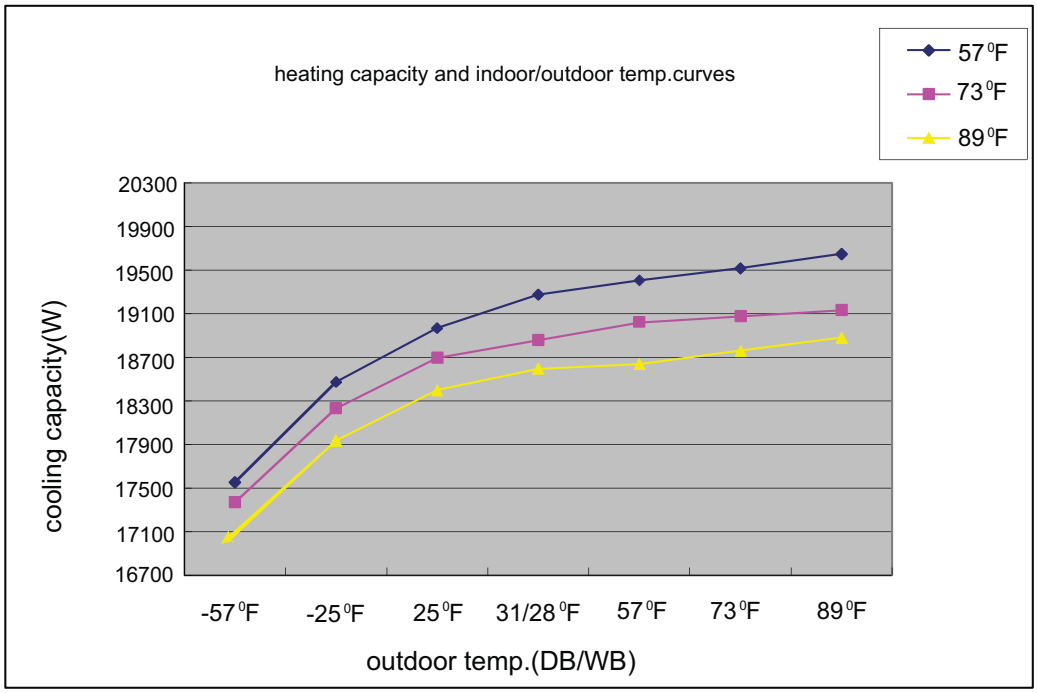
## 8.1 Cooling Capacity-temperature Curves

| HSU18VHK-G&W performance curves<br>cooling value-temperature table | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| indoor temp. | outdoor temp.(humidity 46%) | | | | | | | |
| DB/WB | 67°F | 73°F | 89°F | 111°F | 121°F | 137°F | 147°F | 156°F |
| 67/47°F | 18087 | 18023 | 17965 | 17883 | 17777 | 17706 | 17508 | 17262 |
| 67/54°F | 18139 | 18071 | 18040 | 18016 | 17852 | 17801 | 17863 | 17388 |
| 73/57°F | 18139 | 18119 | 18088 | 18071 | 17910 | 17852 | 17559 | 17405 |
| 79/60°F | 18186 | 18149 | 18122 | 18078 | 17921 | 17907 | 17607 | 17412 |
| 89/67°F | 18224 | 18177 | 18136 | 18105 | 17968 | 17917 | 17617 | 17422 |
| 94/71°F | 18241 | 18218 | 18146 | 18101 | 17985 | 17931 | 17869 | 17491 |
| 105/79°F | 18262 | 18224 | 18170 | 18142 | 18030 | 17972 | 17849 | 17712 |
| 111/83°F | 18299 | 18269 | 18252 | 18160 | 18074 | 18020 | 17910 | 17832 |
| 111/86°F | 18490 | 18334 | 18296 | 18272 | 18187 | 18139 | 18040 | 17951 |



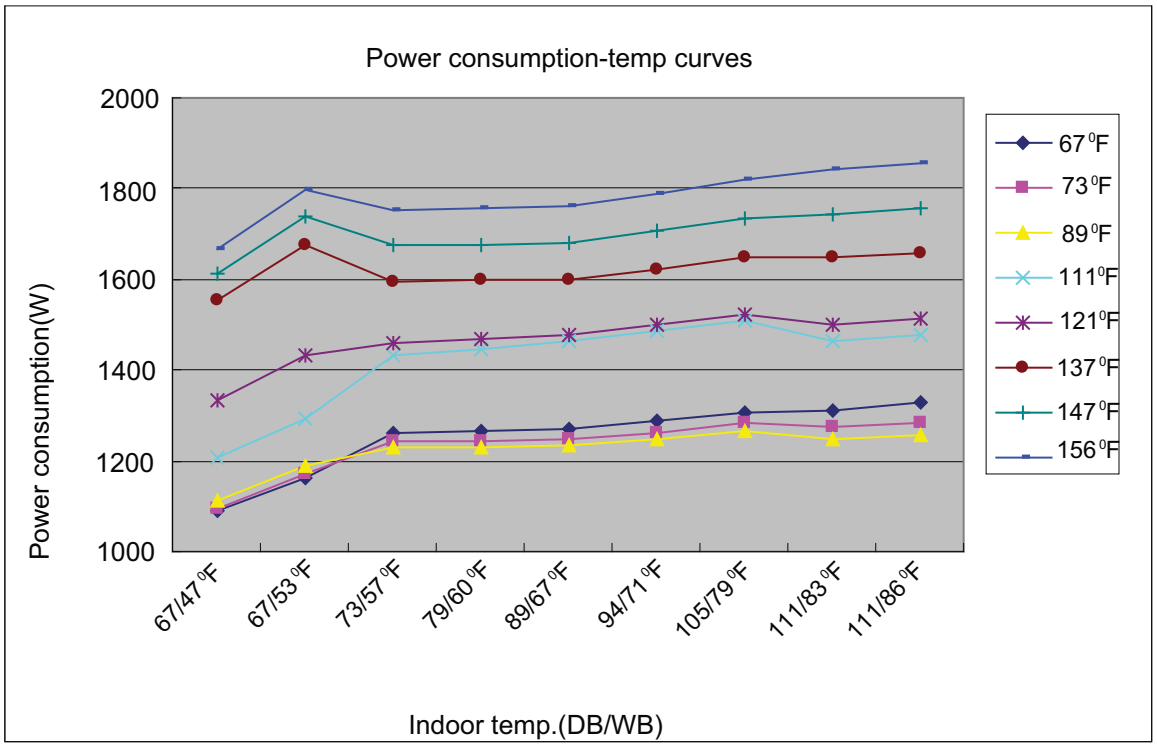
## 8.2Heating capacity-temperature curves

| HSU18VHK-G&W performance curves | | | |
|---|---|---|---|
| heating capacity and indoor/outdoor temp.table | | | |
| outdoor temp. | indoor temp.(humidity 46%) | | |
| DB/WB | 57°F | 73°F | 89°F |
| -57°F | 17414 | 17187 | 16961 |
| -25°F | 17849 | 17634 | 17187 |
| 25°F | 18146 | 17900 | 17412 |
| 31/28°F | 18572 | 17985 | 17525 |
| 57°F | 18985 | 18241 | 18013 |
| 73°F | 19217 | 19040 | 18245 |
| 89°F | 19607 | 19333 | 18723 |



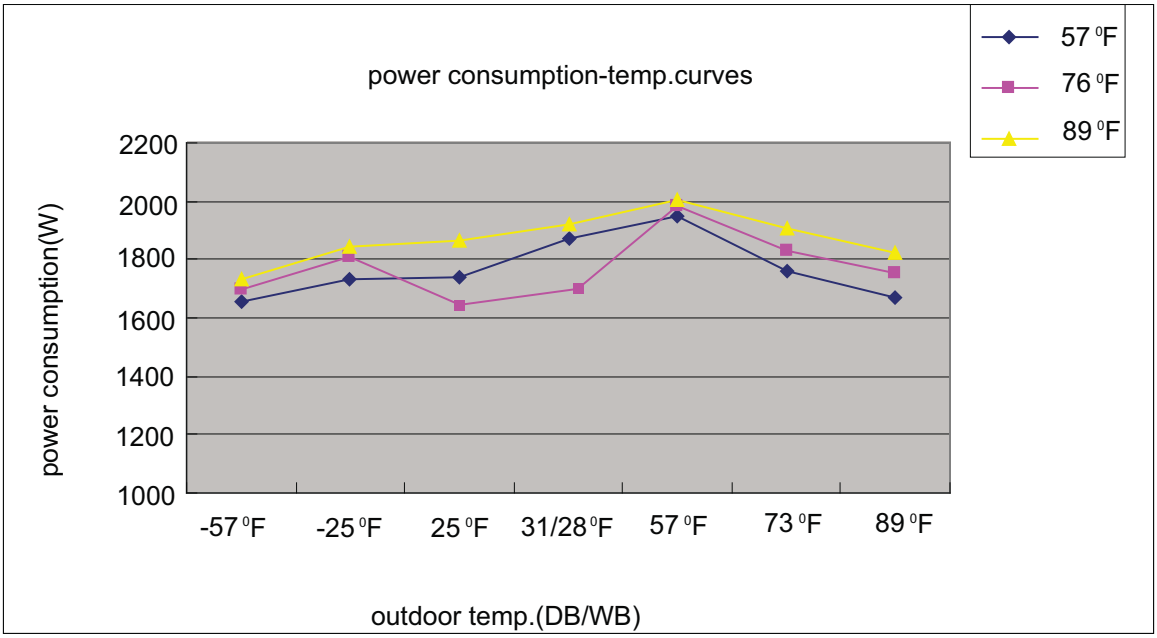
## 8.3 Cooling Power Consunption Value-temperature Cures

| HSU18VHK-G&W performance curves<br>power consumption value-temp.table | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| indoor temp. | outdoor temp.(humidity 46%) | | | | | | | |
| DB/WB | 67°F | 73°F | 89°F | 111°F | 121°F | 137°F | 147°F | 156°F |
| 67/47°F | 1072 | 1165 | 1240 | 1329 | 1448 | 1520 | 1586 | 1560 |
| 67/53°F | 1245 | 1364 | 1387 | 1472 | 1514 | 1560 | 1603 | 1640 |
| 73/57°F | 1325 | 1460 | 1475 | 1520 | 1575 | 1593 | 1640 | 1655 |
| 79/60°F | 1386 | 1452 | 1486 | 1560 | 1594 | 1621 | 1657 | 1682 |
| 89/67°F | 1420 | 1490 | 1523 | 1589 | 1615 | 1642 | 1687 | 1720 |
| 94/71°F | 1496 | 1523 | 1585 | 1610 | 1640 | 1689 | 1712 | 1735 |
| 105/79°F | 1514 | 1585 | 1626 | 1697 | 1768 | 1795 | 1826 | 1859 |
| 111/83°F | 1537 | 1620 | 1665 | 1691 | 1750 | 1782 | 1830 | 1893 |
| 111/86°F | 1624 | 1680 | 1751 | 1825 | 1892 | 1924 | 1962 | 1990 |



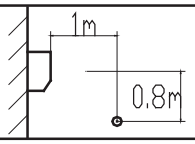
## 8.4 Heating Power Consunption Value-temperature Curves

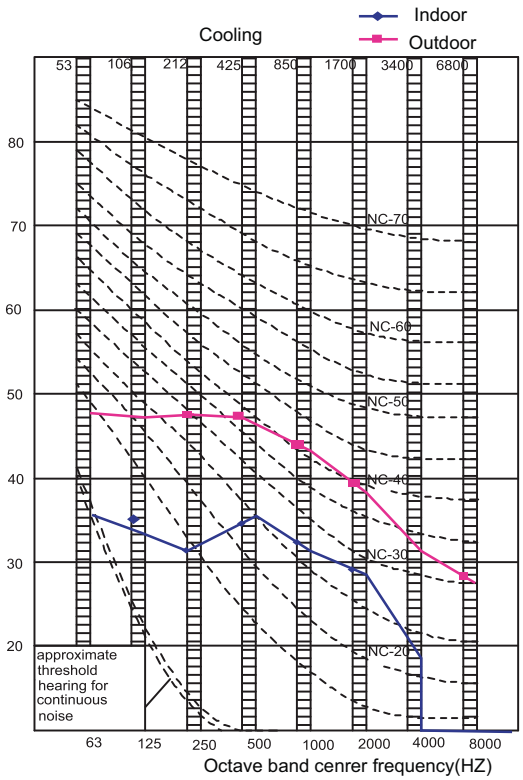
| HSU18VHK-G&W performance curves<br>power consumption value-temp.table | | | |
|---|---|---|---|
| outdoor temp | indoor temp.(humidity 46%) | | |
| DB/WB | 57 °F | 76 °F | 89 °F |
| -57 °F | 1380 | 1465 | 1540 |
| -25 °F | 1451 | 1529 | 1620 |
| 25 °F | 1526 | 1608 | 1655 |
| 31/28 °F | 1587 | 1640 | 1695 |
| 57 °F | 1624 | 1681 | 1706 |
| 73 °F | 1685 | 1708 | 1736 |
| 89 °F | 1726 | 1755 | 1820 |



# 8.5 Sound level

## HSU18VHK-G&W

| Model | Sound pressure level | | | Measureing location<br>Location of microphone | sound power level<br>(cooling/heating) |
|---|---|---|---|---|---|
| | 208~230V,60HZ<br>Cooling/Heating | | | | |
| | H | M | L | | |
| HSU18VHK-G&W | 51 | 48.5 | 46 |  | 60 |



# 9.Installation Manual of Room Air Conditioner

## Preparation

### Necessary Tools for Installation

- Hammer
- Nipper
- Hacksaw
- Hole core drill
- Spanner(17,19 and 26mm)
- Gas leakage detector or soap-and-water solution
- Torque wrench (17mm,22mm,26mm)
- Pipe cutter
- Flaring tool
- Knife
- Measuring tape
- Reamer

### Power Source

- Before inserting power plug into receptacle, check the voltage without fail. The power source is the same as the corresponding name plate.
- Install an exclusive branch circuit of the power.
- A receptacle shall be set up in a distance where the power cable can be reached. Do not extend the cable by cutting it.

### Selection of Installation Place

**Indoor Unit - Select a plocation that is**

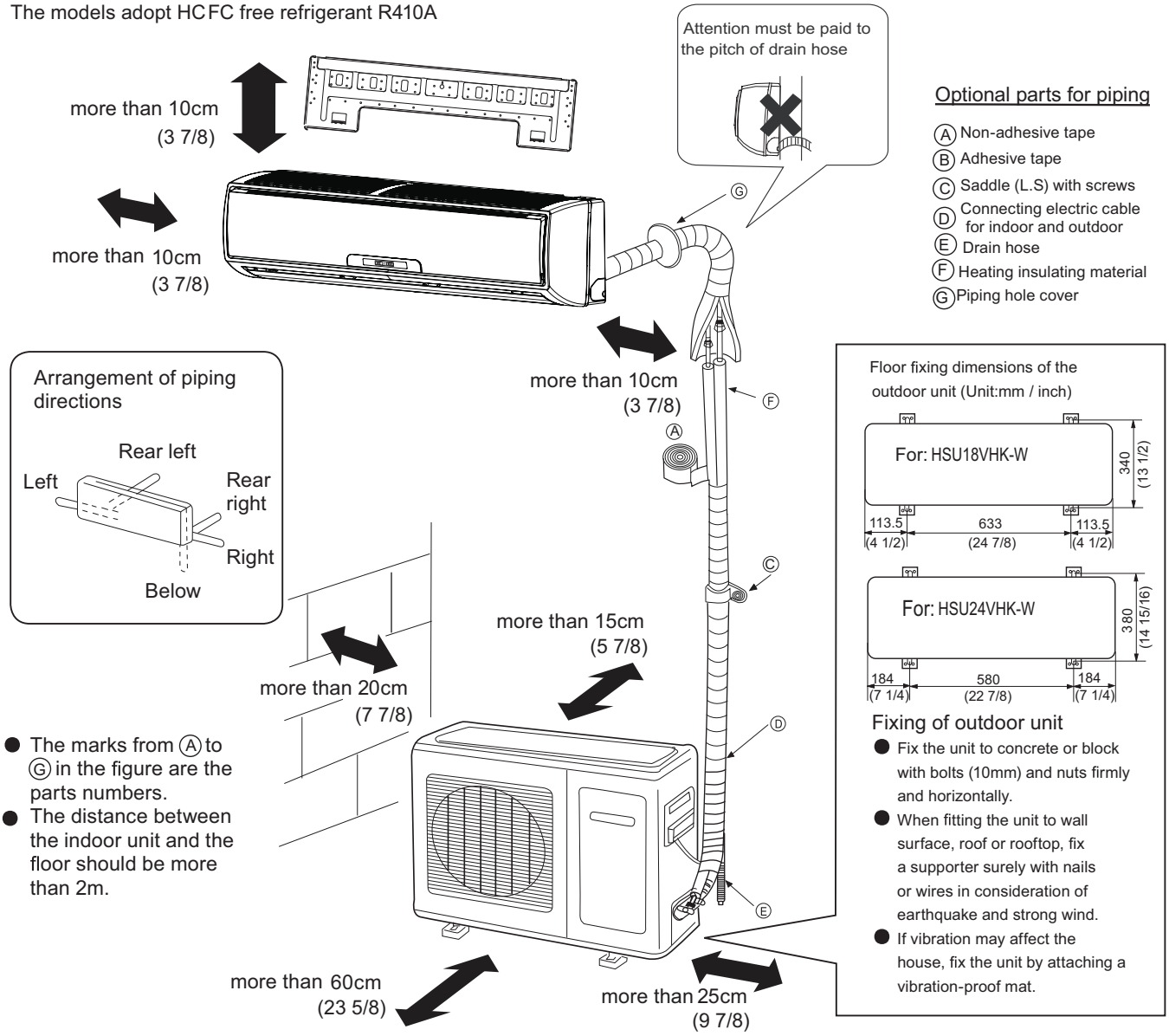
- Robust not causing vibration, where the body can be supported sufficiently.
- Not affected by heat or steam generated in the vicinity, where inlet and outlet of the unit are not disturbed.
- Possible to drain easily, where piping can be connected with the outdoor unit.
- Where cold air can be spread in a room evenly.
- Nearby a power receptacle. (Refer to drawings).
- Place where the distance of more than lm from televisions, radios, wireless apparatuses and fluorescent lamps can be left.
- In the case of fixing the remote controller on a wall, place where the indoor unit can receive signals when the fluorescent lamps in the room are in use.

**Outdoor Unit - Select a plocation that is**

- Not less affected by rain or direct sunlight and is sufficiently ventilated.
- Strong enough to bear the unit, where vibration and noise are not increased.
- Place, where discharged wind and noise do not cause a nuisance to the neighbors.
- Place, where a distance marked ↔ is available as illustrated in the above figure.

### Drawing for the installation of indoor and outdoor units

The models adopt HCFC free refrigerant R410A




- The marks from Ⓐ to Ⓖ in the figure are the parts numbers.
- The distance between the indoor unit and the floor should be more than 2m.

**Fixing of outdoor unit**

- Fix the unit to concrete or block with bolts (10mm) and nuts firmly and horizontally.
- When fitting the unit to wall surface, roof or rooftop, fix a supporter surely with nails or wires in consideration of earthquake and strong wind.
- If vibration may affect the house, fix the unit by attaching a vibration-proof mat.

Please be subject to the actual product purchased , the above picture is just for your reference.

Read this manual before installation
Explain sufficiently the operating means to the user according to this manual.

| Accessory parts | |
|---|---|
| Remote controller (1) | Drain hose (1) |
| AAA dry battery (2) | Cushion (4) |
| Mounting plate (1) | Drain-elbow (1) |
| Plastic cap (4)<br>Ø4X25 Screw (4) | Pipe supporting plate (1) |

**Selection of pipe**

| Type | For 18K | For 24K |
|---|---|---|
| Liquid pipe (Ø) | 6.35mm(1/4") | 9.52mm(3/8") |
| Gas pipe (Ø) | 12.7mm(1/2") | 15.88mm(5/8") |

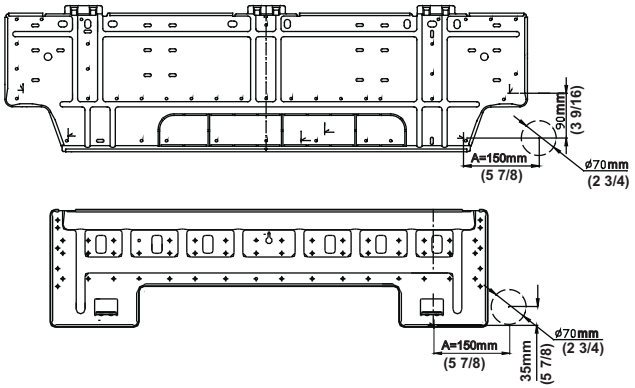
NOTE：The thickness of the pipe must be 0.8mm(1/16") at least.

## Indoor unit

### 1 Fitting of the Mounting Plate and Positioning of the wall Hole

#### When the mounting plate is first fixed

1. Carry out, based on the neighboring pillars or lintels, a proper leveling for the plate to be fixed against the wall, then temporarily fasten the plate with one steel nail.
2. Make sure once more the proper level of the plate, by hanging a thread with a weight from the central top of the plate, then fasten securely the plate with the attachment steel nail.
3. Find the wall hole location A using a measuring tape

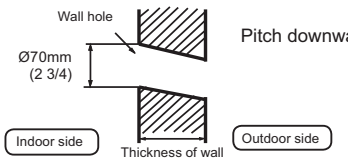



#### When the mounting plate is fixed side bar and lintel

- Fix to side bar and lintel a mounting bar, Which is separately sold, and then fasten the plate to the fixed mounting bar.
- Refer to the previous article, " When the mounting plate is first fixed ", for the position of wall hole.

### 2 Making a Hole on the Wall and Fitting the Piping Hole Cover

- Make a hole of 70mm(2 3/4)in diameter, slightly descending to outside the wall.
- Install piping hole cover and seal it off with putty after installation




### 3 Installation of the Indoor Unit

#### Drawing of pipe

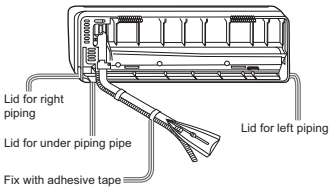
[ Rear piping ]

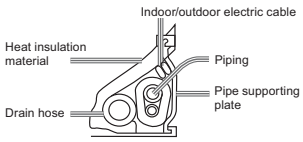
- Draw pipes and the drain hose, then fasten them with the adhesive tape

[ Left · Left-rear piping ]

- In case of left side piping, cut away, with a nipper, the lid for left piping.
- In case of left-rear piping, bend the pipes according to the piping direction to the mark of hole for left-rear piping which is marked on heat insulation materials.

1. Insert the drain hose into the dent of heat insulation materials of indoor unit.
2. Insert the indoor/outdoor electric cable from backside of indoor unit, and pull it out on the front side, then connect them.
3. Coat the flaring seal face with refrigerant oil and connect pipes. Cover the connection part with heat insulation materials, cover with adhesive tape.



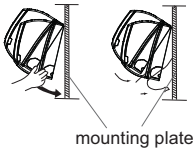

- Indoor/outdoor electric cable and drain hose must be bound with refrigerant piping with protecting tape.

[ Other direction piping ]

- Cut away, with a nipper, the lid for piping according to the piping direction and then bend the pipe according to the position of wall hole. When bending, be careful not to crash pipes.
- Connect beforehand the indoor/outdoor electric cable, and then pull out the connected to the heat insulation of connecting part specially.

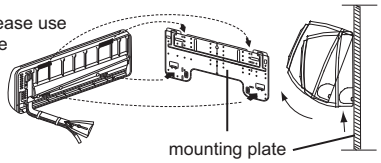
#### Fixing the indoor unit body

- Hang the unit body securely onto the upper notches of the mounting plate. Move the body from side to side to verify its secure fixing.
- In order to fix the body onto the mounting plate,hold up the body aslant from the underside and then put it down perpendicularly.




#### Unloading of indoor unit body

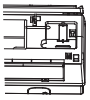
- When you unload the indoor unit, please use your hand to raise the body, then lift the bottom of the body outward slightly and lift the unit until it leaves the mounting plate.




### 4 Connecting the indoor/outdoor Electric Cable

#### Removing the wiring cover

- Remove terminal cover at right bottom corner of indoor unit, then take off wiring cover by removing its screws.

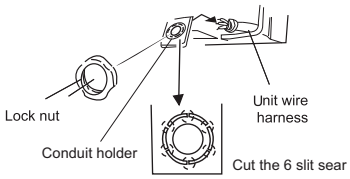


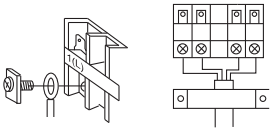
#### When connecting the cable after installing the indoor unit

1. Insert from outside the room cable into left side of the wall hole, in which the pipe has already existed.
2. Pull out the cable on the front side, and connect the cable making a loop.

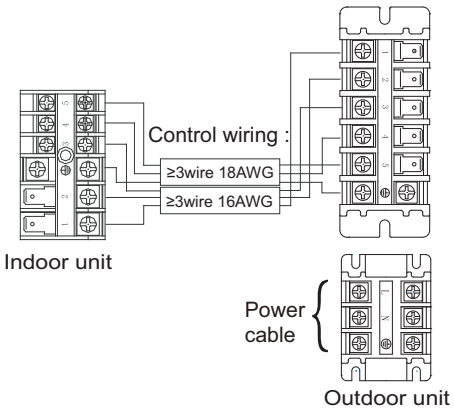
#### When connecting the cable before installing the indoor unit

- Insert the cord from the back side of the unit, then pull it out on the front side.
- Fasten the unit wire harness to the conduit holder using the lock nut.
- Position the conduit holder to its original state using screw.



**Note** When connecting the cable, confirm the terminal number of indoor and outdoor units carefully. If wiring is not correct, proper operation can not be carried out and will cause damage to the units.




HSU18VHK-W Power cable: ≥ 2 Wire with ground 14AWG
HSU24VHK-W Power cable: ≥ 2 Wire with ground 14AWG

1. If the fuse on PC board is broken please change it with the type of T. 3.15A/250V (indoor unit), 25A/250V(outdoor unit).
2. The wiring method should be in line with the local wiring standard.
3. After installation, the power plug should be easily reached.
4. A breaker should be incorporated into fixed wiring. The breaker should be all-pole switch.

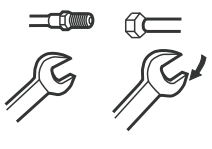
## Outdoor unit

### 1 Installation of Outdoor Unit

Install according to Drawing for the installation of indoor and outdoor units

### 2 Connection of pipes

- To bend a pipe, be careful not to crush the pipe, and the bending radius should be 30(1 1/6) to 40 mm(1 4/7) or longer.
- Connecting the pipe of gas side first makes working easier.
- The connection pipe is specialized for R410A.



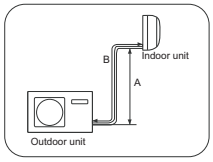

Forced fastening without careful centering may damage the threads and cause a leakage of gas.

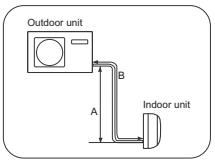
| Pipe Diameter(ø) | Fastening torque |
|---|---|
| Liquid side6.35mm(1/4") | 18N.m |
| Liquid/Gas side9.52mm(3/8") | 42 N.m |
| Gas side 12.7mm(1/2") | 55N.m |
| Gas side 15.88mm(5/8") | 60 N.m |

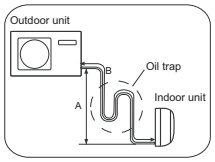
Ensure that on dirt or debris enters the pipe.

The standard pipe length is 7m(27 9/16)If it is over 7m(27 9/16), the function of the unit will be affected. If the pipe has to be lengthened, the refrigerant should be charged, according to 50 g/m(0.045 oz/inch).But the charge of refrigerant must be conducted by professional air conditioner servicer. Before adding additional perform air purging from the refrigerant pipes and indoor unit using a vacuum refrigerant, pump,then charge additional refrigerant.

CAUTION



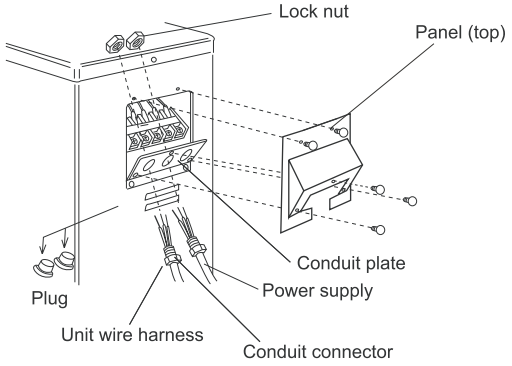




- Max.Elevation: Amax=15 m
- In case the elevation A is more than 5m, oil trap shoud be installed every 5~7m
- Max. Length: Bmax=20m
- In case the pipe length B is more than 10m, the refrigerant should be charged, according to 50 g/m.

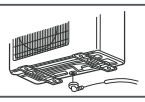
### 3 Connection

- Take off the panel(top), by removing the 5 screws.
- Remove the plugs on the conduit plate.
- Temporarily mount the conduit tubes on the conduit plate.
- Connect both the power supply and unit wire harness to the corresponding terminals on the terminal board.
- Ground the unit in accordance with local codes.
- Allow several extra inches of wire for making wiring connections.
- Use lock nuts to secure conduit tubes.




### 4 Attaching Drain-Elbow

- If the drain-elbow is used, please attach it as figure. (Note: Only for heat pump unit.)



### 5 Purging Method:To use vacuum pump

1. Detach the service port's cap of 3-way valve, the valve rod's cap for 2-way valve and 3-way's, connect the service port into the projection of charge hose (low) for gaugemanifold. Then connect the projection of charge hose (center) for gaugemanifold into vacuum pump.
2. Open the handle at low in gaugemanifold, operate vacuum pump. If the scale-moves of gause (low) reach vacuum condition in a moment, check 1. again.
3. Vacuum for over 15min. And check the gauge which should read -0.1MPa (76 cm Hg) at low pressure side. After the completion of vacuuming, close the handle 'Lo' in gaugemanifold and stop the operation of the vacuum pump. Check condition of the scale and hold it for 1-2min. If the scale-moves back in spite of tightening, make flaring work again, the return to the beginning of 3 .
4. Open the valve rod for the 2-way valve counterclockwise to 90 degrees. After 6 seconds, close the 2-way valve and make the inspection of gas leakage.

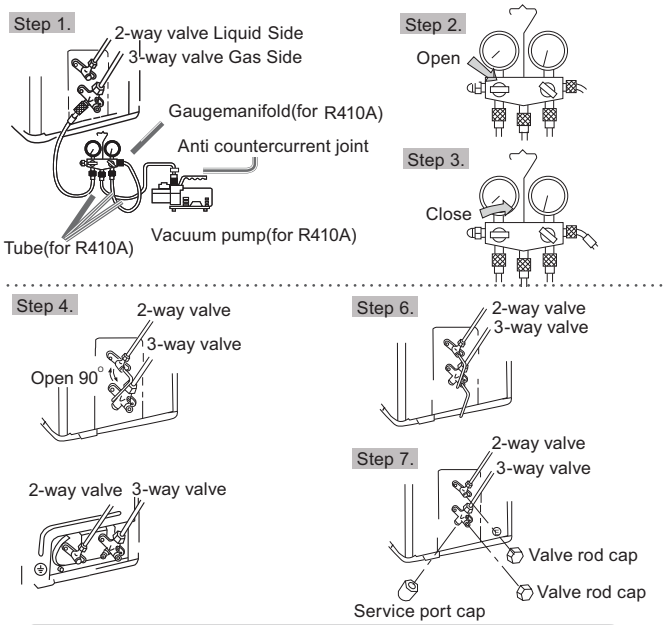
5. No gas leakage?

In case of gas leakage, tighten parts of pipe connection. If leakage stops, then proceed step 6. If leak continues, remove the refrigerant used for the leakage check and flare tubes again. Repeat vacuum and leak and if no leakage, proceed to step 6.

6. Detach the charge hose from the service port, open 2-way valve and 3-way. Turn the valve rod counterclockwise.

7. To prevent the gas leakage, turn the service port's cap, the valve rod's cap for 2-way valve and 3-way's a little more than the point where the torque increases suddenly.

8. After attaching the each caps, check the gas leakage around the caps.




## CAUTION

- If the refrigerant of the air conditioner leaks, it is necessary to discharge all the refrigerant. Vacuum first, then charge the liquid refrigerant into air conditioner according to the amount marked on the name plate.
- Please do not let other cooling medium, except specified one (R410A), or air enter into the cooling circulation system. Otherwise, there will be abnormal high pressure in the system casuing damage and possibly personal injuries.

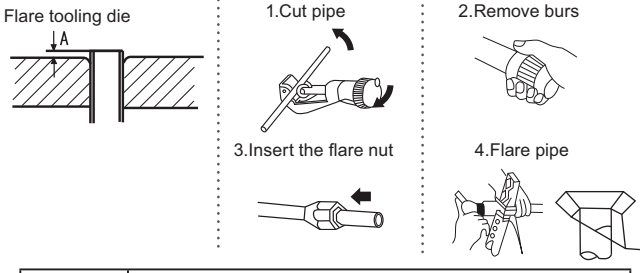
## 1 Power Source Installation

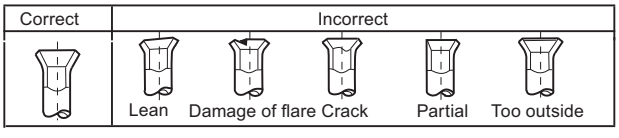
- The power source must be exclusively used for air conditioner. (Over I0A)
- In the case of installing an air conditioner in a moist place, please install an earth leakage breaker (GFCI).
- For installation in other places, use a circuit breaker as far as possible.

## 2 Cutting and Flaring Work of Piping

- Pipe cutting is carried out with a pipe cutter and burs must be removed.
- After inserting the flare nut, flaring work is carried out.

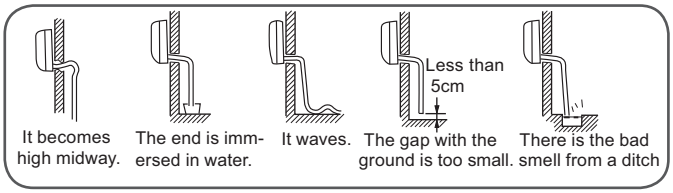
| | Flare tool for R410A | Conventional flare tool | |
|---|---|---|---|
| | Clutch-type | clutch-type(Rigid-type) | Wing-nut type (Imperial-type) |
| A | 0~0.5mm<br>0~1/51 inch | 1.0~1.5mm<br>3/76~1/17 inch | 1.5~2.0mm<br>1/17~1/8 inch |



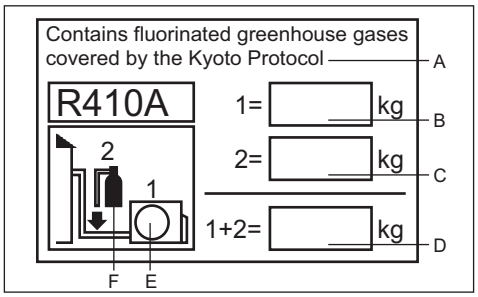

## 3 On Drainage

- Please install the drain hose so as to be downward slope without fail.
- Please don't do the drainage as shown below.


It becomes high midway.
The end is immersed in water.
It waves.
Less than 5cm
The gap with the ground is too small.
There is the bad smell from a ditch

- Please pour water in the drain pan of the indoor unit, and confirm that drainage is carried out surely to outdoor.
- In case that the attached drain hose is in a room, please apply heat insulation to it without fail.

## ■ Refrigerant charge label




This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent into the atmosphere.
Refrigerant type:R410A
GWP* value:1975
GWP=global warming potential
Please fill in with indelible ink,
• 1 the factory refrigerant charge of the product
• 2 the additional refrigerant amount charged in the field and
• 1+2 the total refrigerant charge
on the refrigerant charge label supplied with the product.
The filled out label must be adhered in the proximity of the product charging port (e.g. onto the inside of the stop valve cover).
A contains fluorinated greenhouse gases covered by the Kyoto Protocol
B factory refrigerant charge of the product: see unit name plate
C additional refrigerant amount charged in the field
D total refrigerant charge
E outdoor unit
F refrigerant cylinder and manifold for charging

## ■ Check for Installation and Test Run

■ Please kindly explain to our customers how to operate through the instruction manual.

### Check Items for Test Run

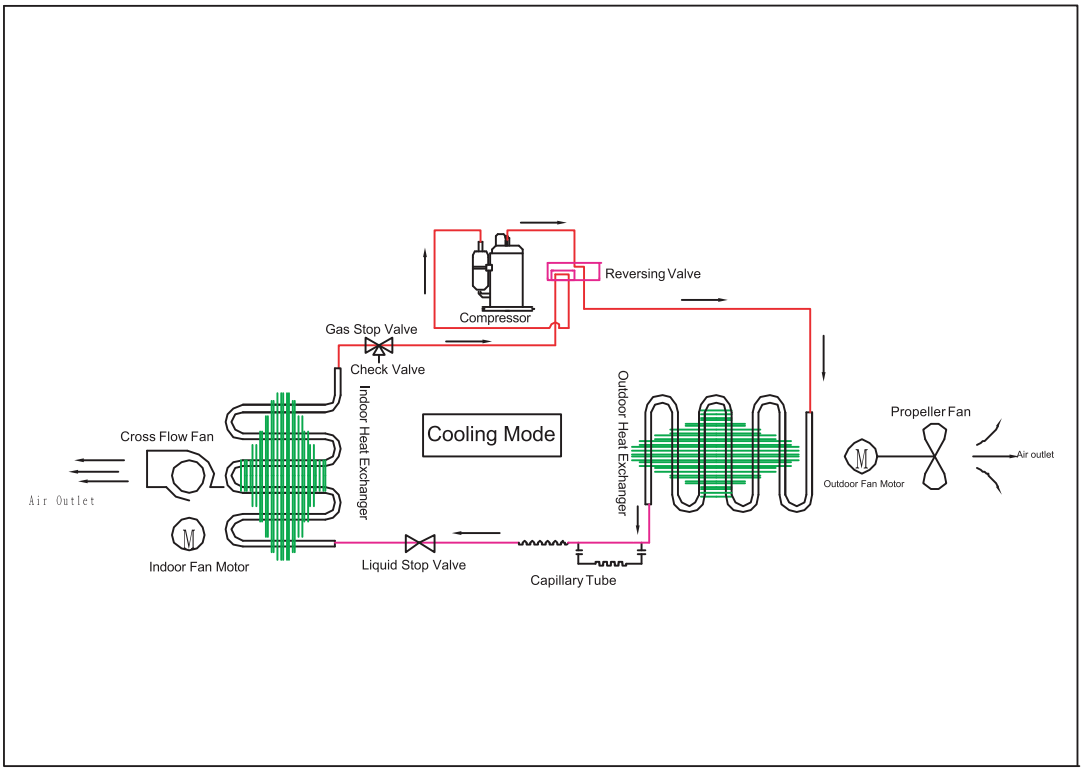
□ Put check mark ✓ in boxes

- □Gas leak from pipe connecting?
- □Heat insulation of pipe connecting?
- □Are the connecting wirings of indoor and outdoor firmly inserted to the terminal block?
- □Is the connecting wiring of indoor and outdoor firmly fixed?
- □Is drainage securely carried out?
- □Is the earth line securely connected?
- □Is the indoor unit securely fixed?
- □Is power source voltage abided by the code?
- □Is there any noise?
- □Is the lamp normally lighting?
- □Are cooling and heating (when in heat pump) performed normally?
- □Is the operation of room temperature regulator normal?

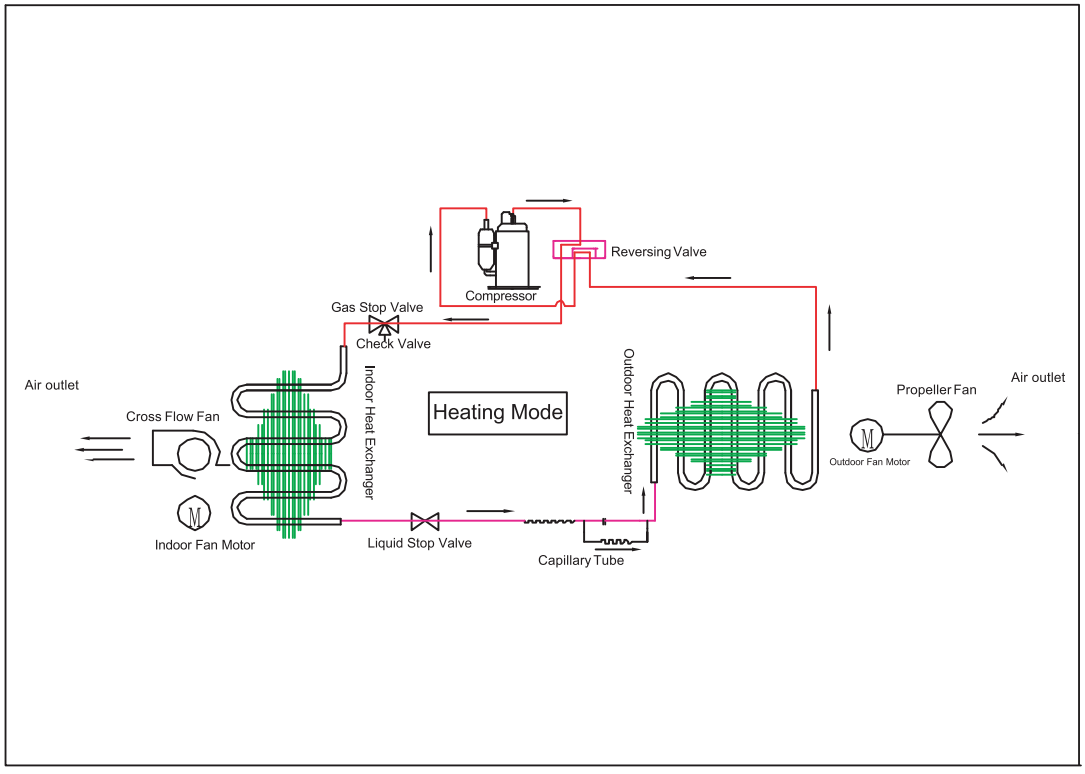
# 10.Appendix

## 10.1 Piping Diagrams

### Cooling mode

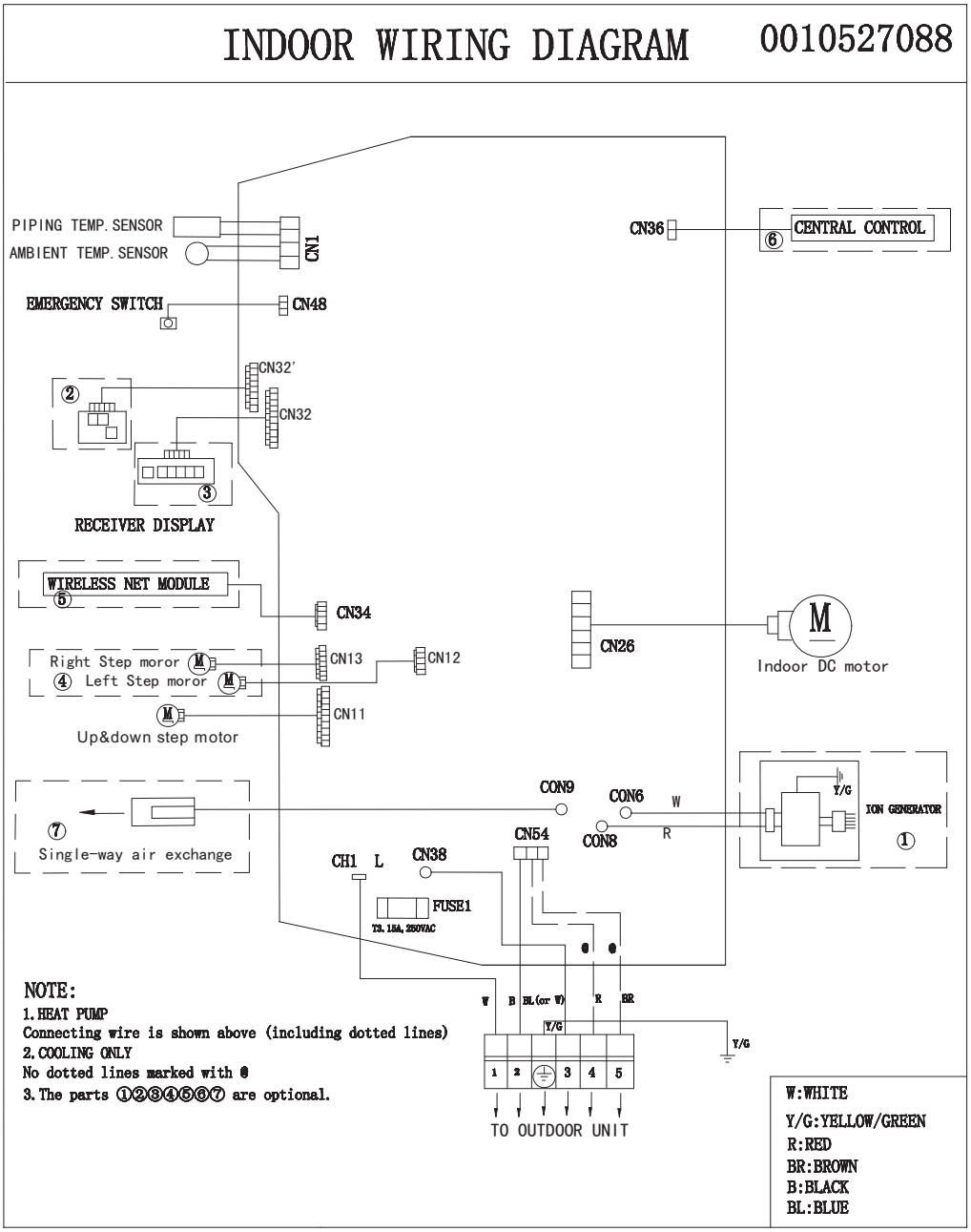



### Heating mode

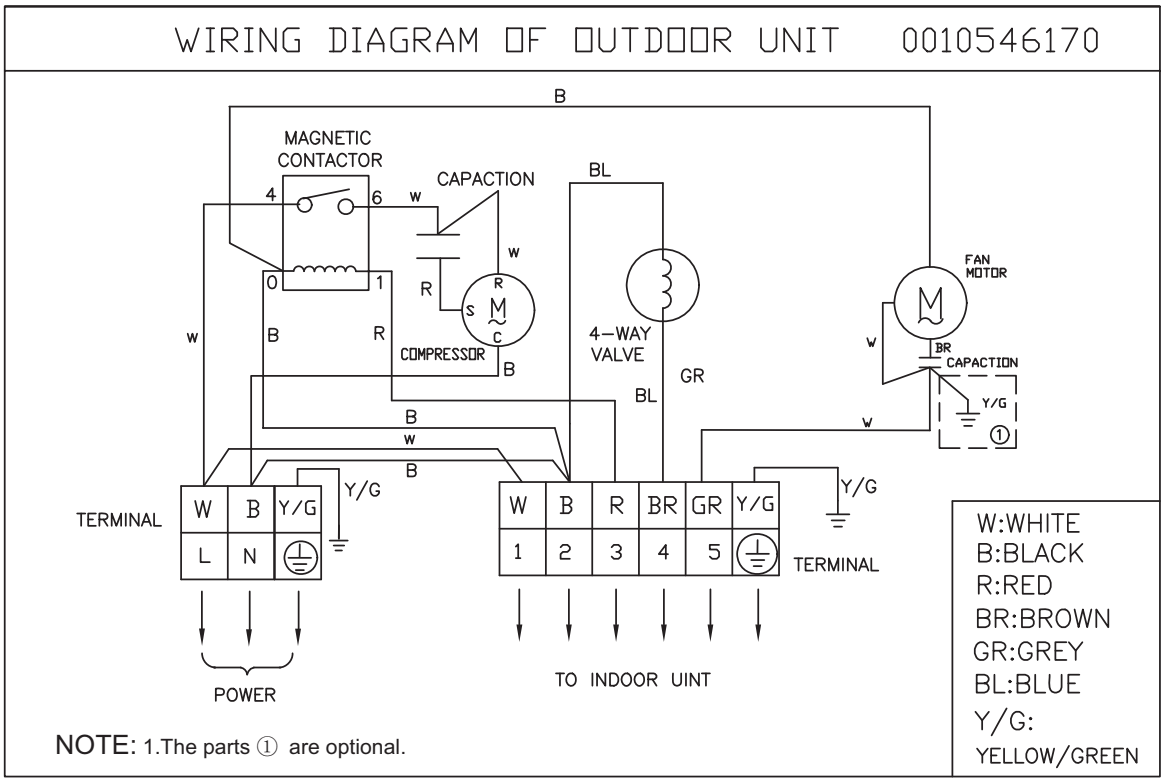


## 10.2 Wiring Diagrams

### Indoor

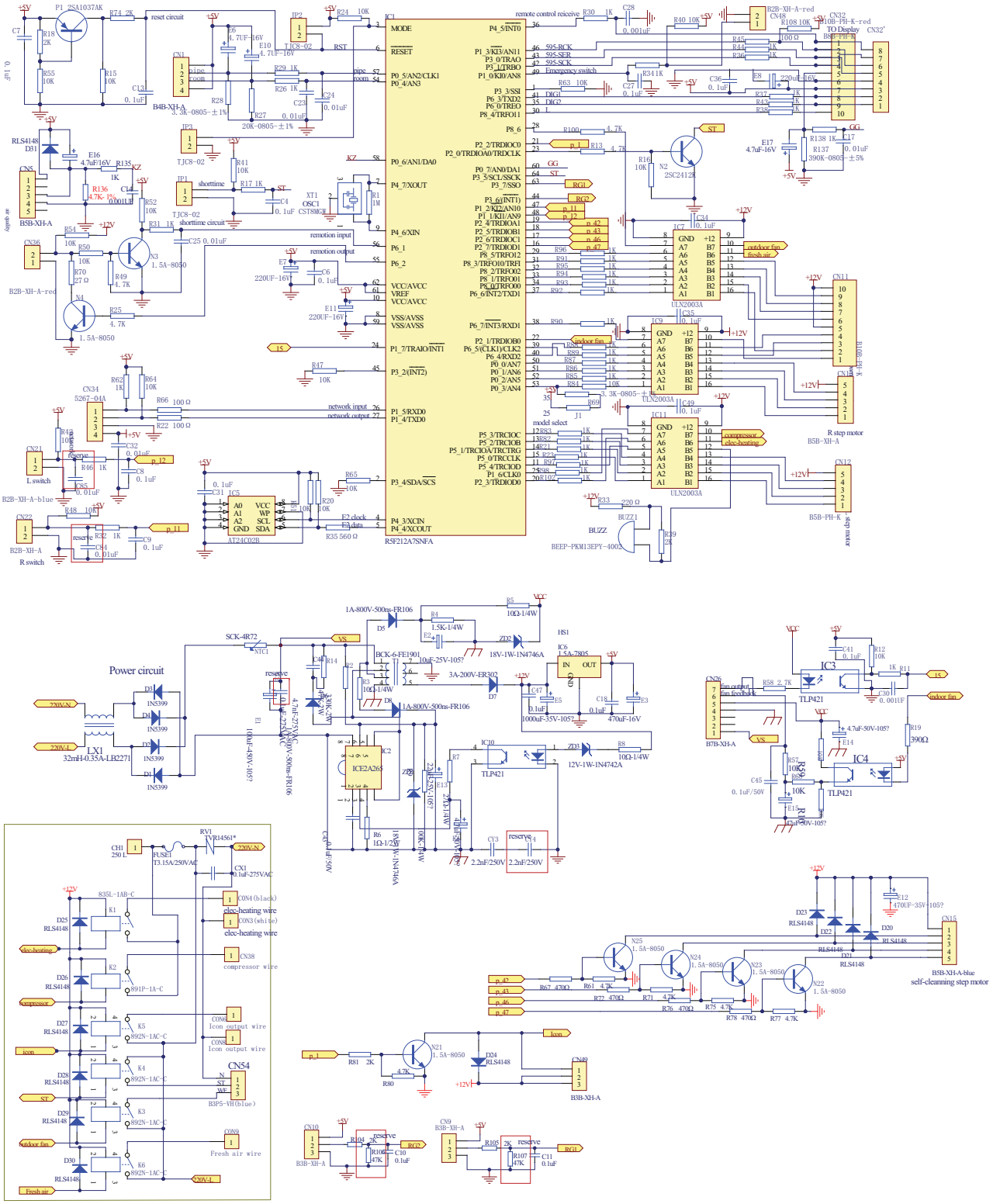


## Outdoor


WIRING DIAGRAM OF OUTDOOR UNIT 0010546170
B
MAGNETIC CONTACTOR
4
6
0
1
CAPACTION
w
BL
R
S
M
C
COMPRESSOR
B
4-WAY VALVE
GR
FAN MOTOR
BR
CAPACTION
Y/G
①
TERMINAL
W
B
Y/G
L
N
W
B
R
BR
GR
Y/G
1
2
3
4
5
TERMINAL
TO INDOOR UINT
POWER
W:WHITE
B:BLACK
R:RED
BR:BROWN
GR:GREY
BL:BLUE
Y/G:
YELLOW/GREEN
NOTE: 1.The parts ① are optional.

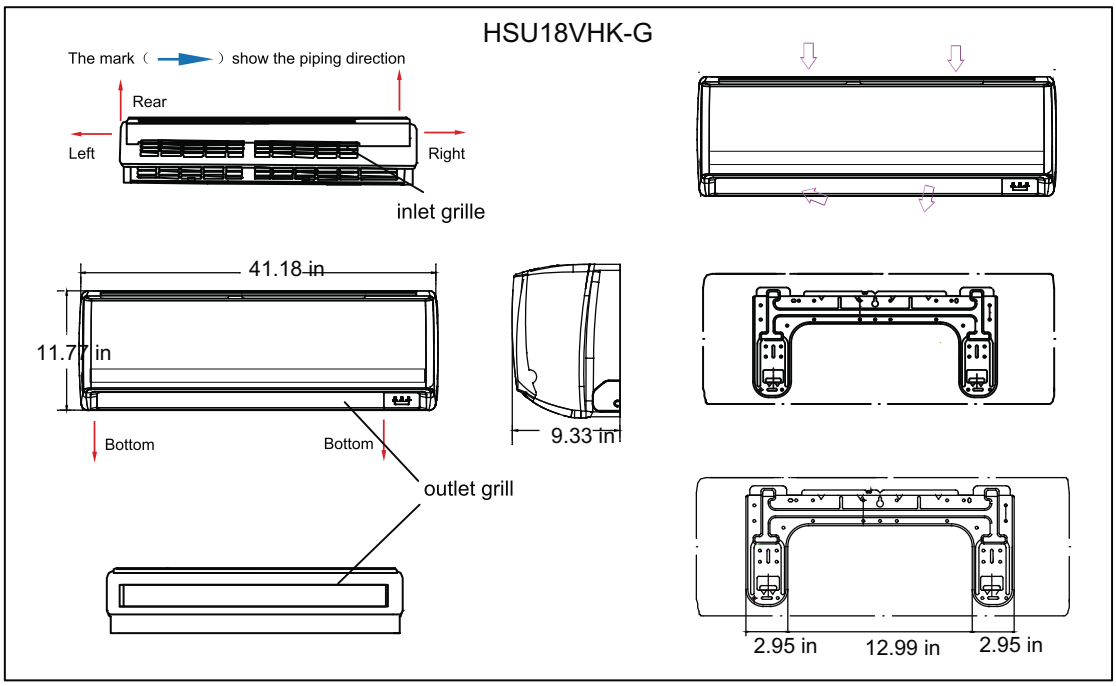
# 10.3 Wiring diagrams

## Circuit Diagram

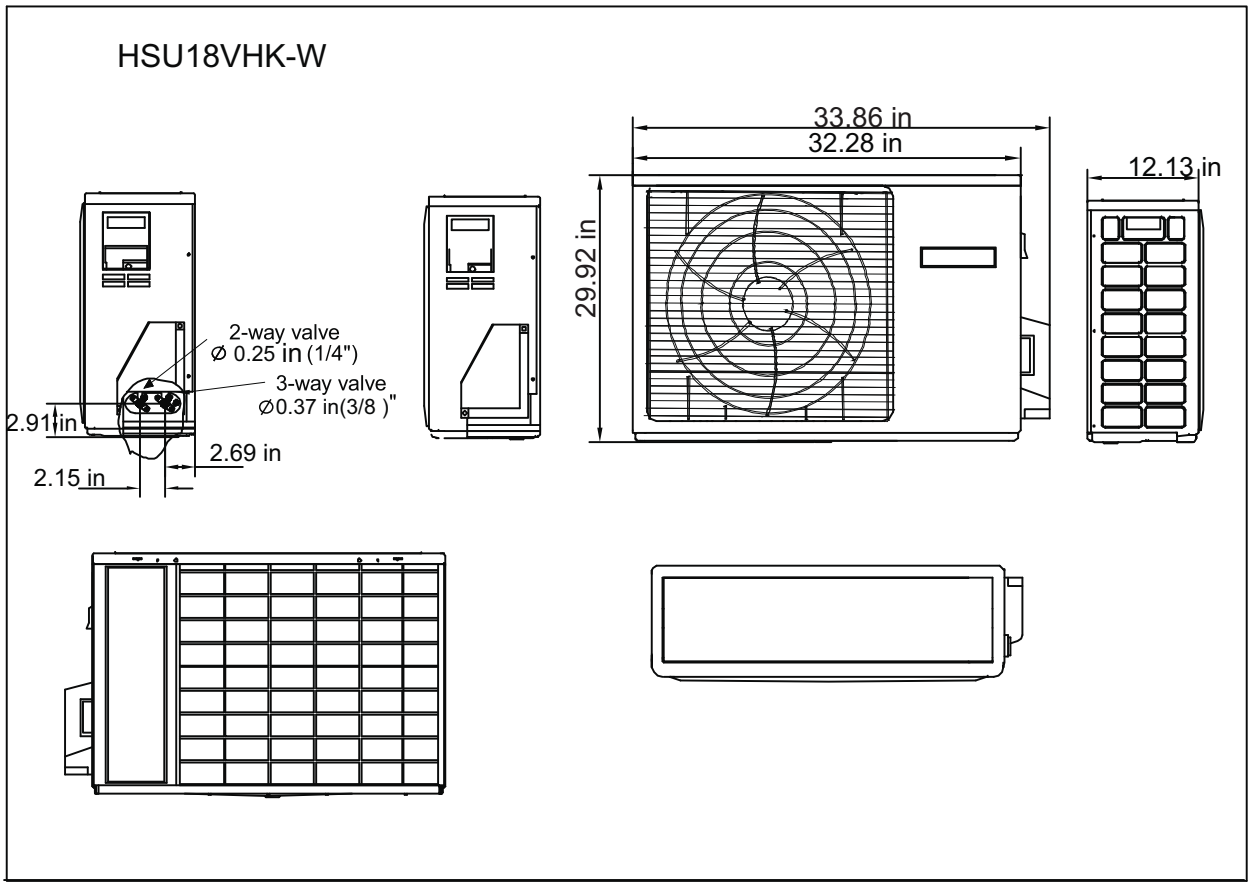


# 10.4 Dimensional drawings

## Indoor unit



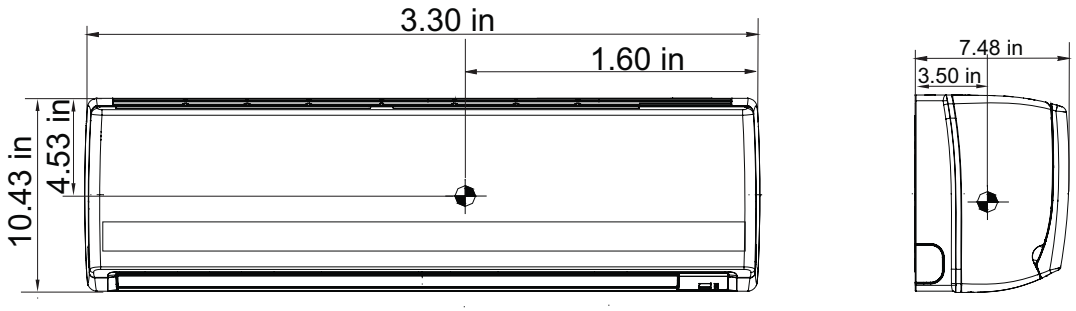

## Outdoor unit



# 10.5 Center of gravity

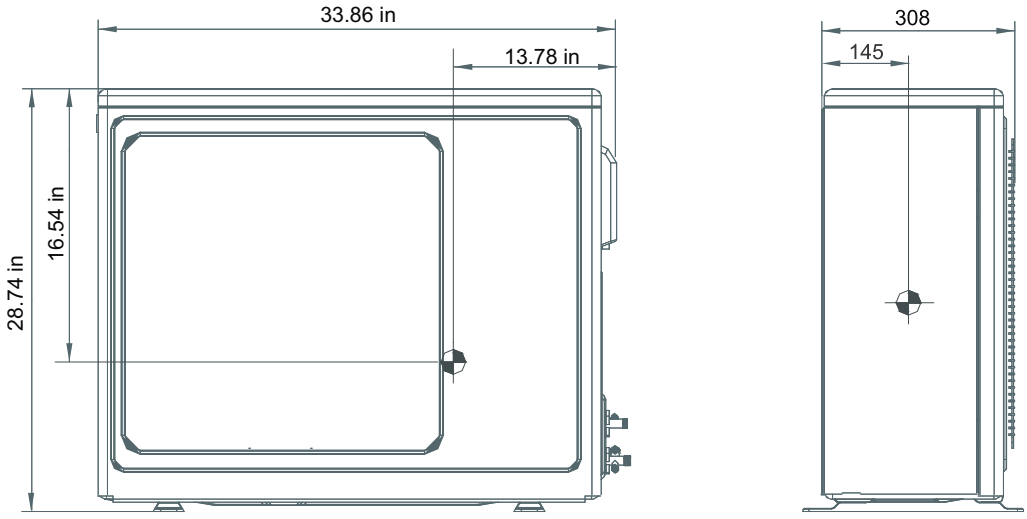
## Indoor unit

HSU18VHK-G




## Outdoor Unit

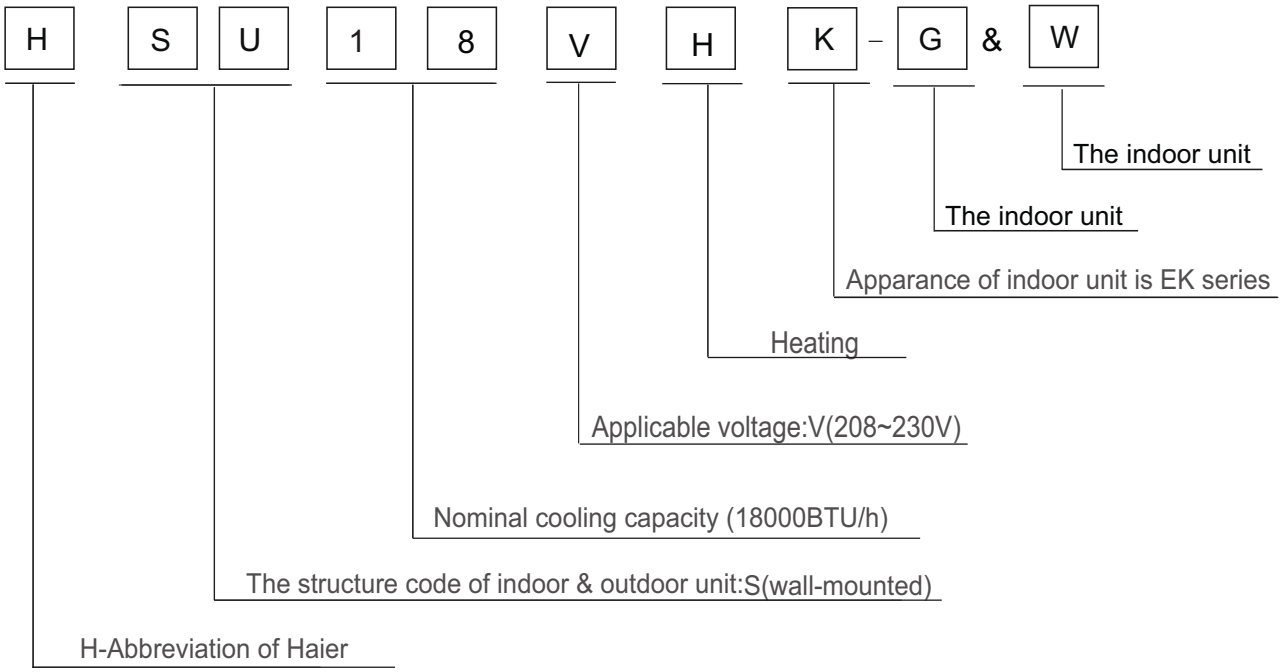
HSU18VHK-W



## 10.6 Accessories

| Standard name | HSU18VHK-G&W |
|---|---|
| Drain hose | 1 |
| Plastic bag | 1 |
| screw assembly | 1 |
| Air purifier | 2 |
| Change forfresh airtube(suit) | 1 |
| Mounting plate | 1 |
| Remote controller | 1 |
| Installation manual | 1 |
| Operation manual | 1 |
| R-03 dry battery | 2 |
| Steel nail | 6 |
| Plastic cap | 4 |
| Cover | 1 |
| Cushion | 4 |
| Pipe supporting plate | 1 |
| Drain-elbow | 0 |

# 10.8 Description of the unit model's coding rules




Examples:

HSU18VHK,It represents wall-mounted split type heat pump air conditioner.The cooling capacity is 18000BTU/h,and the power supply is 208-230V/60HZ,"K" means the indoor unit series number.

notes:18k means 18000BTU/h.

# Sincere Forever

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